About INCTR

INCTR is a non-profit organisation whose founder members are the International Union Against Cancer and the Institut Pasteur, Brussels. The goals of the organisation are to assist in controlling cancer in developing countries through the development of infrastructure for cancer treatment and research, and through collaboration with physicians and scientists in such countries, to take advantage of unique opportunities to improve our understanding of factors (genetic and environmental) that predispose people to various types of cancer. Education is an integral element of long-term collaborative projects relating to treatment or prevention. The latter also result in immediate benefits to patients or individuals at high risk for developing cancer. INCTR emphasises international collaboration, and promotes improved communication among the wide range of professionals and volunteers working to control cancer throughout the world.

About INCTR Brazil

INCTR’s Brazilian Branch is located in São Paulo, Brazil. Dr. Sidnei Epelman, Coordinator of the Pediatric Oncology Department at Santa Marcelina Hospital directs the branch with the administrative help of Mariangela Iotti. INCTR Brazil is assisting in the coordination of programs in Latin America, particularly in pediatric oncology and cervical cancer. It has a major role in training and education in clinical trials management and also in fostering the development of health care professionals involved in the psychological support of cancer patients. In September 2004, it organized and coordinated two educational workshops – “The Value and Conduct of Clinical Trials in Latin America” and “The Importance of a Multi-disciplinary Approach in Pediatric Oncology”. Taking advantage of the international attendance at the educational workshops, the National Campaign on Retinoblastoma Early Diagnosis was launched internationally at the same time. As part of the campaign, a public service announcement (PSA) that provided information about how to recognize the signs of retinoblastoma in children’s eyes was shown on television throughout the country. The next phase of the campaign will be another such announcement, this time, focusing on the impact of the message on parents of children with retinoblastoma. The PSAs have been translated into many languages – including English, French, Spanish, Italian, Arabic and Hindi – and have been shared around the world. An additional announcement is planned. INCTR Brazil will take the lead role in developing an international protocol for the treatment of childhood cancer that is feasible and affordable in countries with limited resources.

Annual Meeting Highlights

INCTR’s 7th Annual Meeting will be held in Brazil, the largest country in Latin America. The meeting will retain its standard components, including keynote lectures, reports from INCTR programs, educational/scientific sessions, workshops, and “Meet the Expert” sessions. The meeting will begin with INCTR award lectures. INCTR members will have the opportunity to present their own work either as an oral presentation or poster based on submitted abstracts. The educational/scientific sessions will deal with important cancers in Latin America, including breast and cervical cancer, AIDS associated malignancies pediatric cancers and lymphoma. General aspects of cancer control and palliative care will be included in the program. There will be ample opportunities for discussion and exchange of ideas.
Welcome to São Paulo

Language: The language spoken in Brazil is Portuguese. The majority of the population understands Spanish. In the tourism industry, English is the language most commonly used. The Congress official language is English.

City Tour: For additional information, you may consult www.spturis.com and www.cidadedesaoporto.com

Credit Cards: Major international credit cards are accepted everywhere in Brazil.

Telephone: The country code for Brazil is 55. The city code for São Paulo is 11.

Currency: The Brazilian currency is the Real (R$). Foreign currency may be exchanged in local banks, exchange bureau and hotels.

Arriving in São Paulo - Airport transportation: São Paulo has two main airports. All international flights arrive and depart from the São Paulo International Airport - Guarulhos is approximately one hour’s drive from the city-center. Local people will also refer to this airport as Cumbica.

Conference Hotel

The 2007 INCTR Annual Meeting will take place at the:

Blue Tree Hotel Ibirapuera
Av Ibirapuera 2927
Moema
CEP 04209-200
São Paulo – SP
Tel: +55-11 5053 2200
Fax: +55-11 5053 2201
www.bluetree.com.br

Organizing / Scientific Committee

INCTR would like to thank the following individuals for their hard work in putting the program together for this year INCTR Annual Meeting.

Scientific Committee
Dr. Adamos Adamou
Dr. Franco Cavalli
Dr. Eduardo Cazap
Dr. Guy de Thé
Dr. Vinay Jain
Dr. Carlos Leal
Dr. Santiago Pavlosky
Dr. Richard Pestell
Dr. Roberto Rivera-Luna
Dr. Carlos Santos
Dr. Aziza Shad
Dr. Antonio Watchell
Dr. Jeff White
Dr. Dennis Wright

Brazilian Organizing Committee
Dr. Sidnei Epelman
Ms. Mariangela Iotti

INCTR Organizing Committee
Ms. Melissa Adde
Dr. Stuart Brown
Dr. Ian Magrath
Dr. Ama Rohatiner

INCTR Meeting Coordinators
Ms. Bénédicte Chaïdrón
Ms. Elisabeth Dupont
Mr. Cédric Petit-Musin
World Health Organization statistics show that the incidence and mortality from cancer is continuing to increase throughout the world. Accounting for 12.5% of global deaths, it is predicted that the number of new cancer cases per year will increase from approximately 10 million in 2000 to at least 15 million by 2020. Particularly disturbing is that the bulk of this increase will occur in developing countries which, particularly in the lowest income groups, are not able to cope with their existing cancer burdens due to severe limitations in human, physical and financial resources. Unfortunately, cancer continues to be under-emphasized as a health problem in low and middle-income countries and without immediate action to remedy this, its impact on the overall health and therefore economies of these countries will become ever greater.

Although cancer comprises a set of complex diseases and cancer control can, therefore, appear to be a daunting task, a great deal can be done to limit the morbidity and mortality of cancer even when resources are severely limited. Appropriate legislation – and enforcement - to reduce exposure to carcinogens (particularly tobacco), public education, ensuring that primary health care providers are informed, screening for early cancers, where this is feasible and cost effective, coupled to appropriate treatment (which, for early stage cancers is generally simple, inexpensive and highly successful) and palliative care when there are no curative options, are all possible to a greater or lesser extent even in the poorest countries. Unfortunately, most patients in developing countries present with advanced, untreatable cancer. Since the pattern of cancer and available resources differ dramatically from one country to another, even when socioeconomic development is similar, there is no substitute for planning at national or regional levels to identify priorities and initiate actions that are feasible in the context of available resources.

Clinical research, often seen as a luxury in developing countries, is in fact, essential to explore best practices in low resource settings. It also brings immediate benefits to patients by improving the quality of care and stimulating attempts to reduce abandonment of therapy and loss to follow up. Moreover, multi-institutional research, particularly when there is international collaboration, will increase communication and therefore joint learning among the participating investigators, while providing access, if indirect, for health professionals and patients alike, to the limited number of experts in developing countries and to external collaborators.

INCTR’s overall goal can be summarized as reducing mortality and morbidity from cancer in developing countries through a coordinated program entailing education, training and the conduct of long term collaborative projects related to early detection, diagnosis, treatment and palliative care - in short, capacity building. In the course of such projects, health professionals receive “on-the-job” training as well as opportunities to participate in workshops and training courses, thus improving the performance and professional circumstances of the health workforce while documenting the efficacy and efficiency of interventions. Good quality information – particularly when coupled to systematic review, will provide a regionally relevant corpus of evidence on which future interventions can be based, while simultaneously creating a cohort of knowledgeable investigators able to ensure sustainability and to identify knowledge gaps that can be filled by research. Wherever possible, such projects take advantage of opportunities to understand more about the factors that predispose to specific cancers or which may influence the outcome of treatment.

While model projects must be the starting point, they are developed with outreach and up-scaling in mind, the intent being to ensure national, regional and international impact. This will be greatly aided by the kinds of regional and international networks that INCTR is creating, including partnerships with other organizations able to provide expertise or resources not available within INCTR. The development of coordinated programs of training and education involving multiple institutions and maximizing the use of video-teleconferencing for interdisciplinary meetings, consultations and education is becoming increasingly feasible in the age of the internet and will result in savings of time and money, as well as benefits arising from improved communication, both within the oncology community and beyond.
Annual Meeting 2007

PROGRAM AT A GLANCE

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<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Meeting room name</th>
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<tbody>
<tr>
<td>07:45 - 08:45</td>
<td>Meet the Expert: Challenges and Solutions in Data Management</td>
<td>Gaivota 2</td>
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<tr>
<td>07:45 - 08:45</td>
<td>Meet the Expert: Collaboration in Retinoblastoma Treatment</td>
<td>Gaivota 3</td>
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<tr>
<td>07:45 - 08:45</td>
<td>Meet the Expert: Breast Cancer Treatment</td>
<td>Gaivota 2</td>
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<tr>
<td>07:45 - 08:45</td>
<td>Guidelines for Developing Countries' Pathology Services</td>
<td>Round 1</td>
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<tr>
<td>07:45 - 08:45</td>
<td>Meet the Expert: Tobacco control in Brazil</td>
<td>Savia</td>
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<tr>
<td>09:00 - 12:30</td>
<td>Session 4: (Simultaneous) Non-Hodgkin Lymphomas</td>
<td>Joint ESO Session</td>
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<tr>
<td>09:00 - 12:30</td>
<td>Session 4: (Simultaneous) Proffered Papers: Adult Cancer</td>
<td>Gaivota 2</td>
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<td>11.00 - 12.00</td>
<td>Coffee Break</td>
<td>Lobby</td>
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<tr>
<td>12.30 - 13.00</td>
<td>Lunch and Poster Viewing</td>
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<tr>
<td>13.00 - 14.00</td>
<td>Keynote Lecture: 'The Role of Information Technology in Education, Patient Care and Research in Low Resource Settings'</td>
<td>Gaivota 2 &amp; 3</td>
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<tr>
<td>13.00 - 14.00</td>
<td>Session 5: (Simultaneous) 'Traditional Medical Systems: Complementary or Detrimental?'</td>
<td>Gaivota 3</td>
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<td>14.00 - 15.30</td>
<td>Coffee Break</td>
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<tr>
<td>14.30 - 17.30</td>
<td>Session 6: Consensus Panel Discussions</td>
<td>'Essential Cytoxic Drugs: Cost, Quality, Availability'</td>
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<td>Session 6: Consensus Panel Discussions</td>
<td>'Traditional Medical Systems: Complementary or Detrimental?'</td>
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<tr>
<td>15.00 - 18.00</td>
<td>Session 7: Symposium</td>
<td>'Essential Cytoxic Drugs: Cost, Quality, Availability'</td>
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<td>15.00 - 18.00</td>
<td>Session 7: Symposium</td>
<td>'Traditional Medical Systems: Complementary or Detrimental?'</td>
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<tr>
<td>16.00 - 18.00</td>
<td>Session 8: (Plenary)</td>
<td>'The Cancer Problem in Latin America; from Knowledge to Practice'</td>
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<td>16.00 - 18.00</td>
<td>Session 8: (Plenary)</td>
<td>'Traditional Medical Systems: Complementary or Detrimental?'</td>
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<tr>
<td>17.30 - 19.00</td>
<td>Members Forum</td>
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<td>19.30 - 20.30</td>
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<td>Lobby</td>
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<td>20.30 - 21.30</td>
<td>Dinner</td>
<td>Gaivota 2 &amp; 3</td>
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Sunday, 4th March, 2007

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<tr>
<td>07:00 - 09:00</td>
<td>Keynote Lecture: Building the Data Base for Cancer Control in Developing Countries</td>
<td>Gaivota 2</td>
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<tr>
<td>09.00 - 13.00</td>
<td>Session 5: (Simultaneous) ( 1 \times ) 'Traditional Medical Systems: Complementary or Detrimental?'</td>
<td>Gaivota 3</td>
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<td>10.30 - 11.00</td>
<td>Coffee Break</td>
<td>Lobby</td>
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<td>12.30 - 14.00</td>
<td>Lunch and Poster Viewing</td>
<td>Lobby</td>
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<tr>
<td>14.00 - 16.00</td>
<td>Keynote Lecture: 'Ethics and Data'</td>
<td>Gaivota 2</td>
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<tr>
<td>14.00 - 16.00</td>
<td>Proffered Papers: A. Adult Cancer</td>
<td>Gaivota 2</td>
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<tr>
<td>14.00 - 16.00</td>
<td>Proffered Papers: B. Pediatric Cancer</td>
<td>Gaivota 3</td>
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<td>15.00 - 16.00</td>
<td>Coffee Break</td>
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<td>16.00 - 18.00</td>
<td>Session 6: Consensus Panel Discussions</td>
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<td>17.30 - 19.00</td>
<td>Dinner</td>
<td>Gaivota 2 &amp; 3</td>
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Saturday, 3rd March, 2007

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<tr>
<td>07:00 - 09:00</td>
<td>Keynote Lecture: 'Ethics in Pediatric Research'</td>
<td>Sabia</td>
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<tr>
<td>07:00 - 09:00</td>
<td>Keynote Lecture: 'Breast Cancer Treatment Guidelines for Developing Countries'</td>
<td>Rouxinol 1</td>
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<tr>
<td>07:00 - 09:00</td>
<td>Keynote Lecture: 'Improving Pathology Services in Developing World'</td>
<td>Rouxinol 2</td>
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<tr>
<td>07:00 - 09:00</td>
<td>Keynote Lecture: 'Collaboration in Retinoblastoma Treatment'</td>
<td>Gaivota 3</td>
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<tr>
<td>07:00 - 09:00</td>
<td>Keynote Lecture: 'Tobacco Control in Brazil'</td>
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<td>Meet the Experts: 'Building the Data Base for Cancer Control in Developing Countries'</td>
<td>Gaivota 2</td>
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<td>07.45 - 08.45</td>
<td>Meet the Experts: 'St Jude Outreach Program/Cure4Kids'</td>
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<td>07.45 - 08.45</td>
<td>Meet the Experts: 'The Psychological Support of Cancer Patients'</td>
<td>Rouxinol 1</td>
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<td>07.45 - 08.45</td>
<td>Meet the Experts: 'Establishing Palliative Care Programs in Developing Countries'</td>
<td>Rouxinol 2</td>
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<tr>
<td>07.45 - 08.45</td>
<td>Meet the Experts: 'The Role of Ethics Committees in Pediatric Research'</td>
<td>Sabia</td>
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<td>Keynote Lecture: 'Role of Information Technology in Education, Patient Care and Research in Low Resource Settings'</td>
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<td>Session 8: (Plenary)</td>
<td>'Traditional Medical Systems: Complementary or Detrimental?'</td>
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<td>10.30 - 11.00</td>
<td>Coffee Break</td>
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<td>11.00 - 11.15</td>
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<td>12.30 - 13.00</td>
<td>Lunch and Poster Viewing</td>
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<td>13.00 - 14.00</td>
<td>Session 9: 'Closing Session'</td>
<td>Gaivota 2 &amp; 3</td>
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<tr>
<td>14.00 - 14.15</td>
<td>Session 9: 'Closing Session'</td>
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<td>'Traditional Medical Systems: Complementary or Detrimental?'</td>
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<tr>
<td>19.30 - 20.30</td>
<td>Gala Dinner</td>
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Day 1. Thursday, 1st March, 2007

08:00 - 12:00 am  Registration and Mounting of Posters

12:00 - 13:00 pm  Lunch and Poster Viewing

13:00 - 15:00 pm  SESSION 1 (Plenary): Inauguration and INCTR Award Lectures

13:00 pm  Opening Remarks

13:15 pm  Award Ceremony

Each year, INCTR’s Special Panel of the Advisory Board selects two individuals who have made major contributions to cancer control in developing countries; one from a resource-poor country, and one from a resource-rich country. Each gives a lecture at the Annual Meeting.

The Nazli Gad-El-Mawla Award. For outstanding contributions to cancer control by an individual from a resource-poor country. Recipient for 2007: Ayhan Cavdar, Tuba Turkish Academy of Sciences Cancer Working Group, Turkey

13:15 pm  Introduction to Award Recipient
Emel Unal, University of Ankara, Turkey

13:25 - 14:05 pm  Award Lecture
Acute Myelocytic Leukemia (AML) Associated with Orbital Granulocytic Sarcoma in Turkish Children

The Paul P. Carbone Award in International Oncology. For outstanding contributions to oncology or cancer research in developing countries by an individual from a resource-rich country. Recipient for 2007: Rengaswamy Sankaranarayanan, IARC - International Agency for Research on Cancer, France

14:10 pm  Introduction to Award Recipient
Cécilia Sepulveda, WHO - World Health Organization, Switzerland

14:20 - 15:00 pm  Award Lecture
Prospects for Prevention and Early Detection of Cervical Cancer in Developing Countries

15:00 - 15:20 pm  Coffee Break

15:20 - 17:30 pm  SESSION 2 (Plenary): INCTR Reports and Special Panel

15:20 pm  Annual Report
Ian Magrath, INCTR - International Network for Cancer Treatment and Research, Belgium

15:45 pm  Clinical Research
Melissa Adde, INCTR - International Network for Cancer Treatment and Research, Belgium

16:10 pm  Palliative Care
Fraser Black, Victoria Hospice, Canada

16:35 pm  Education
Ama Rohatiner, INCTR UK, United Kingdom
Aziza Shad, Georgetown University Hospital, USA
Sabine Perrier-Bonnet, AMCC - Alliance Mondiale contre le Cancer, France
### Day 2. Friday, 2nd March, 2007

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<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>07:45 - 08:45 am</td>
<td>Meet the Expert Session</td>
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<tr>
<td></td>
<td><strong>Investigator Responsibilities in Clinical Research</strong></td>
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<td></td>
<td>Melissa Adde, INCTR, Belgium</td>
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<td>07:45 - 08:45 am</td>
<td>Meet the Expert Session</td>
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<td><strong>Cancer Registration</strong></td>
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<td>John Young, Rollins School of Public Health, USA</td>
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<td>07:45 - 08:45 am</td>
<td>Meet the Expert Session</td>
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<td><strong>A Practical Approach to Diagnosis Lymphoma</strong></td>
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<td>Bharat Nathwani, University of Southern California, USA</td>
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<td>07:45 - 08:45 am</td>
<td>Meet the Expert Session</td>
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<td><strong>Nursing Oncology</strong></td>
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<td>Sabine Perrier-Bonnet, AMCC - Alliance Mondiale Contre le Cancer, France</td>
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<tr>
<td>07:45 - 08:45 am</td>
<td>Meet the Expert Session</td>
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<td><strong>Management Strategies for Chronic Myeloid Leukemia in Developing Countries</strong></td>
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<td>Tariq Mughal, University of Texas Southwestern School of Medicine, USA</td>
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<tr>
<td>09:00 - 09:45 am</td>
<td>Keynote Lecture</td>
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<td><strong>Chairperson</strong>: Luis Santini, Brazilian National Cancer Institute, Brazil</td>
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<td><strong>The Global Cancer Problem</strong></td>
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<td>Mark Clanton, ACS - American Cancer Society, USA</td>
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<td>09:50 am - 13:00pm</td>
<td>SESSION 3 (Plenary): Global Cancer Control Issues</td>
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<td><strong>Joint Session with the IAEA, International Atomic Energy Agency (PACT)</strong></td>
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<td><strong>Chairperson</strong>: Massoud Samiei, PACT, IAEA - International Atomic Energy Agency, Austria</td>
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<td>Manzoor Ahmad, Healthways Laboratories, Pakistan</td>
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<td>09:50 am</td>
<td>Global Cooperation in Cancer Control: The PACT Collaboration</td>
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<td>Massoud Samiei, PACT, IAEA - International Atomic Energy Agency, Austria</td>
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<tr>
<td>10:10 am</td>
<td>Cancer Control in Different Resource Settings: WHO Perspective</td>
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<td>Cecilia Sepulveda, WHO - World Health Organization, Switzerland</td>
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<tr>
<td>10:30 am</td>
<td>The Role of Non-Governmental Organizations</td>
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<td>Franco Cavalli, Oncology Institute of Southern Switzerland, Switzerland</td>
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<tr>
<td>10:50 - 11:10 am</td>
<td>Coffee Break</td>
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</table>
11:10 am  Cancer Control in Brazil  
Luiz Santini, Brazilian National Cancer Institute, Brazil

11:30 am  ESMO’s Task Force on Developing Countries  
Adamos Adamou, ESMO Taskforce for Developing Countries, Belgium

11:50 am  Creating a Global Community of Practice  
Simon Sutcliffe, BC Cancer Agency, Canada

12:10 pm  Panel Discussion  
Global Cooperation in Cancer Control in Low Resource Settings: Merging the Parallel Universes

13:00 - 14:00 pm  Blood Transfusion  
Aziza Shad, Georgetown University Hospital, USA  
Gerald Sandler, Georgetown University Hospital, USA  
Prasana N. Kumar, PSG Institute of Medical Sciences & Research, India  
Sanobar Khan, Advocate Illinois Masonic Medical Center, USA

13:00 - 14:00 pm  Lunch and Poster Viewing

14:00 - 14:40 pm  Keynote Lecture  
Chairperson: Elmer Huerta, Washington Cancer Institute, USA  
The Cancer Problem in Latin America: from Knowledge to Practice  
Eduardo Cazap, SLACOM, Sociedad Latinoamericana y del Caribe de Oncologia Médica, Argentina

14:45 - 18:00 pm  SESSION 4A (Simultaneous) Pediatric Cancer: The MyChildMatters Program  
Joint Session with sanofi-aventis/UICC  
Chairpersons: Franco Cavalli, Oncology Institute of Southern Switzerland, Switzerland  
Antonio Wachtel, Instituto Nacional De Enfermedades Neoplasticas, Peru

14:45 pm  The MyChildMatters Project  
Franco Cavalli, Oncology Institute of Southern Switzerland, Switzerland

15:00 pm  Improving and Expanding Access to Care for Acute Lymphoblastic Leukemia in the Philippines  
Julius Lecciones, Philippines Children's Medical Center, Philippines

15:15 pm  Expanding Care for Burkitts Lymphoma in Tanzania  
Twalib Ngoma, Ocean Road Cancer Institute, Tanzania

15:30 - 15:50 pm  Coffee Break

15:50 pm  Supporting the Families of Children with Cancer in Egypt  
Hussein Khaled, National Cancer Institute, Egypt

16:05 pm  Reducing Abandonment of Treatment Through the Establishment of Satellite Clinics in Honduras  
Ligia Fu, Hospital Escuela, Honduras

16:25 pm  Psychosocial and Nutritional Support for Pediatric Oncology Patients and their Families in Venezuela  
Claudia Sanchez Machuca, Luis Razetti Institute Support Unit, Venezuela

16:40 pm  Additional Comments  
Caty Forget, sanofi-aventis, France
Annual Meeting 2007

16:50 - 17:30 pm Discussion
What Has Been Learned?

14:45 - 18:00 pm SESSION 4B (Simultaneous) Cervical Cancer and Breast Cancer
Joint Session with ESMO/SLACOM (European Society for Medical Oncology/Sociedad Latinoamericana y del Caribe de Oncologia Médical)/Susan G. Komen for the Cure
Chairpersons: Adamos Adamou, ESMO Taskforce for Developing Countries, Belgium
Zeba Aziz, Allama Iqbal Medical College Jinnah Hospital Lahore, Pakistan

14:45 pm Cervical Cancer Screening in Latin America
Rolando Herrero, Costa Rica Institute for Research, Costa Rica

15:05 pm HPV Vaccination Strategies for Latin America
Carlos Santos, Instituto Nacional De Enfermedades Neoplasticas, Peru

15:25 pm The Management of Early and Locally Advanced Cervical Cancer in Brasil
Ayrton de Andrea Filho, Medicine School of the Pontifrice Catholic University, Brazil

15:45 - 16:05 pm Coffee Break

16:05 pm The Case for Sentinel Node Biopsy in Breast Cancer
Julio Abugattas, Instituto Nacional De Enfermedades Neoplasticas, Peru

16:25 pm Locally Advance Breast Cancer: An Experience in Public Hospital in Brazil
Marianne Pinotti, Hospital Perola Byington, Brazil

16:45 pm Breast Cancer in Latin America: Results of the BCRF Project
Reinaldo Chacon, Instituto Alexander Fleming, Argentina

17:05 pm Breast Health Global Initiative: a Catalyst for Cancer Control in Limited Resource Countries
Ben Anderson, Breast Health Center University of Washington School of Medicine, USA

17:25 -18:00 pm Discussion
Obstacles to Effective Treatment of Breast Cancer in Developing Countries


07:45 - 08:45 am Meet the Expert Session
Challenges and Solutions in Data Management
Melissa Adde, INCTR, Belgium
Julia Challinor, University of California San Fransisco, USA

07:45 - 08:45 am Meet the Expert Session
Collaboration in Retinoblastoma Treatment
INCTR Strategy Group

07:45 - 08:45 am Meet the Expert Session
Use of Breast Cancer Treatment Guidelines in Developing Countries
Ben Anderson, Breast Health Center University of Washington, USA
Richard Pestell, Kimmel Cancer Center, USA
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<td>07:45 - 08:45 am</td>
<td><strong>Meet the Expert Session</strong>&lt;br&gt;Improving Pathology Services in Developing World&lt;br&gt;Mansoor Ahmad, Healthways Laboratories, Pakistan&lt;br&gt;Bharat Nathwani, University of Southern California, USA&lt;br&gt;Dennis Wright, University of Southampton, UK&lt;br&gt;Dennis Weisenberger, University of Nebraska, USA</td>
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<td>07:45 - 08:45 am</td>
<td><strong>Meet the Expert Session</strong>&lt;br&gt;Ethics in Pediatric Research&lt;br&gt;Francis Crawley, Good Clinical Practice Alliance, Belgium</td>
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<td>09:00 - 09:45 am</td>
<td><strong>Keynote Lecture</strong>&lt;br&gt;Chairperson: Clint Clampitt, American Cancer Society, USA&lt;br&gt;Tobacco Control in Brazil&lt;br&gt;Gilberto Schwartzman, Academic Hospital - Federal University Rio Grande do Sul, Brasil</td>
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<td>09:45 - 12:25 pm</td>
<td><strong>SESSION 5A (Simultaneous) Workshop: Non-Hodgkin Lymphomas. Joint Session ESO.</strong>&lt;br&gt;Chairpersons: Bharat Nathwani, University of Southern California School of Medicine, USA&lt;br&gt;Renato Melaragno, Hospital Santa Marcelina, Brazil</td>
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<td>09:45 am</td>
<td>Advances in the Classification of NHL&lt;br&gt;Dennis Wright, University of Southampton, United Kingdom</td>
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<td>10:05 am</td>
<td>Geographical Variation in NHL Incidence&lt;br&gt;Dennis Weisenburger, University of Nebraska Medical Center, USA</td>
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<td>10:25 am</td>
<td>Extranodal Lymphomas&lt;br&gt;Franco Cavalli, Oncology Institute of Southern Switzerland, Switzerland</td>
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<td>10:45 - 11:05 am</td>
<td><strong>Coffee Break</strong></td>
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<td>11:05 am</td>
<td>Clinical Trials in Lymphomas in Latin America&lt;br&gt;Santiago Pavlovsky, FUNDALEU, Argentina</td>
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<td>11:25 am</td>
<td>Treatment of Childhood NHL in Brazil&lt;br&gt;Maria Lydia de Andrea, Hospital Darcy Vargas, Brazil</td>
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<td>11:45 am</td>
<td>The Role of Monoclonal Antibodies in Treatment of B Cell Lymphomas&lt;br&gt;Ama Rohatiner, INCTR UK, United Kingdom</td>
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<td>12:05 pm</td>
<td><strong>Panel Discussion</strong>&lt;br&gt;Diagnosis and Treatment of Lymphoma in Developing Countries</td>
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<td>09:45 - 12:30 pm</td>
<td><strong>SESSION 5B (Simultaneous) Workshop: Retinoblastoma</strong>&lt;br&gt;Chairpersons: Julius Lecciones, Philippine Children’s Medical Center, Philippines&lt;br&gt;Celia Antonelli, Hospital A.C. Camargo, Brazil</td>
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<td>09:45 am</td>
<td>Understanding Reason for Late Diagnosis: A Multinational Study&lt;br&gt;Melissa Adde, INCTR - International Network for Cancer Treatment and Research, Belgium</td>
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<td>10:00 am</td>
<td>Developing an Institutional Program for Care of Patients with Retinoblastoma&lt;br&gt;Carlos Leal, Instituto Nacional De Pediatria, Mexico</td>
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| 10:15  | Developing a National Program for the Care of Patients with Retinoblastoma  
Sidnei Epelman, Santa Marcelina Hospital, Brazil |
| 10:30 - 10:50 am | Coffee Break |
| 10:50  | Importance of Staging in the Determination of Therapy  
Luis Fernando Teixeira, Hospital Santa Marcelina, Brazil |
| 11:05  | Management of Intraocular Disease  
Clelia Erwenne, Federal University of Sao Paulo, Brazil |
| 11:20  | Management of Extraocular Disease  
Nurdan Tacyildiz, Ankara University Medical School, Turkey |
| 11:35  | Changing Concepts in the Management of Retinoblastoma  
Patrick de Potter, Clinique Universitaire Saint-Luc, Belgium |
| 11:50  | Panel Discussion  
Improving Survival Rates in Retinoblastoma While Preserving Vision and Minimizing Late Effects |
| 13:00 - 14:00 pm | Lunch and Poster Viewing |
| 14:00 - 14:45 pm | Keynote Lecture  
Chairperson: Melissa Adde, INCTR - International Network for Cancer Treatment and Research, Belgium  
Ethics & Data  
Francis Crawley, Good Clinical Practice Alliance, Belgium |
| 14:50 - 15:30 pm | SESSION 6 (Simultaneous Sessions): Proffered Papers  
A. Adult Cancer  
Chairpersons: Paulo Hoff, Hospital Sirio Libanés, Brazil  
Daniel Gimenes, Hospital Santa Marcelina, Brazil |
| 14:50  | The Cairo Breast Screening Study (CBCST)  
Salwa Boulos, Italian Hospital, Egypt |
| 15:00  | Phase One Trial of Dendritic Cell Vaccines for HPV Induced Cervical Cancer  
P. Ramanathan, WIA -Cancer Institute, India |
| 15:10  | G3BP2 and TM1 mRNA Expression in Oral and Tongue Squamous Cell Carcinoma  
F.S. Pasini, Faculdade de Medicina da USP, Brazil |
| 15:20  | Key Prognosticators of Postoperative Adjuvant Therapy of Glioblastoma Multiforme: Implications from an Audit of Patients Treated over a 15-Year Period  
N.R. Datta, Sanjay Gandhi Postgraduate Institute of Medical Sciences, India |
| 14:50 - 16:20 pm | B. Pediatric Cancer  
Chairpersons: Sergio Petrilli, GRAACC/UNIFESP -Instituto De Oncologia Pediatrica, Brazil  
Nubia Mendonça, ONCO - Oncology Society of Bahia, Brazil |
| 14:50 - 16:20 pm | Effectiveness of Protocol BCH-98 in Treatment of Children with ALL  
Minyan Wu, Beijiong Children’s Hospital, China |
15:00 pm  Iodine 125 Plaque Radiotherapy for Recurrent Retinoblastoma with Localized Vitreous Seeding After Chemoreduction
Patrick de Potter, Cliniques Universitaires St Luc, Belgium

15:10 pm  Infections in Childhood Acute Lymphoblastic Leukemia. An Analysis of 222 Febrile Neutropenic Episodes
Laxman Singh Arya, Indrapratha Apollo Hospital, India

15:20 pm  Clinical Study on the Pharmacokinetic Changes in Plasma and Cerebrospinal Fluid Drug Level during High-Dose Cytosine Arabinoside Treatment For Children ALL and NHL
Xiaotian Xie and Yaoping Wang, Tongji Hospital, China

15:30 - 15:50 pm Coffee Break

15:50 - 16:20 pm Proffered Papers. Discussion

16:20 - 18:00 pm SESSION 7 - Simultaneous Consensus Panel Discussions

Panel A. Essential Cytotoxic Drugs: Cost, Quality, Availability
Moderators: Cecilia Sepulveda, WHO - World Health Organization, Switzerland
Adamos Adamou, ESMO Taskforce for Developing Countries, Belgium

Panel: Santiago Pavlovsky, FUNDAEU, Argentina
Roberto Rivera Luna, Instituto Nacional De Pediatría, Mexico
Mark Lodge, Cochrane Cancer Network, United Kingdom
Suresh Advani, Jaslok Hospital & Research Center, India

Panel B. Traditional Medical Systems: Complementary or Detrimental?
Moderators: Michael Wargowich, South Carolina Cancer Center, Columbia
Bafour Awuah, Komfo Anokye Teaching Hospital, Ghana

Panel: Zeba Aziz, Allama Iqbal Medical College Jinnah Hospital Lahore, Pakistan
Yaoping Wang, Shanghai Children’s Medical Center, China
Twalib Ngoma, ORCI - Ocean Road Cancer Institute, Tanzania

19:30 pm Gala Dinner

Day 4, Sunday, 4th March, 2007

07:45 - 08:45 am Meet the Expert Session
The Database for Cancer Control in Developing Countries
Mark Lodge, Cochrane Center, UK

07:45 - 08:45 am Meet the Expert Session
St Jude Outreach Program/Cure4Kids
Raul Ribiero, St Judes Hospital, USA
Francisco Pedrosa, CEHOPE – Centro de Hematologia e Oncologia Pediátrica Center, Brazil

07:45 - 08:45 am Meet the Expert Session
The Psychological Support of Cancer Patients
Claudia Epelman, Santa Marcelina Hospital, Brazil
07:45 - 08:45 am  Meet the Expert Session  
*Establishing Palliative Care Programs in Developing Countries*  
Stuart Brown, King Faisal Specialist Hospital & Research Center, Saudi-Arabia  
Fraser Black, Victoria Hospice, Canada

07:45 - 08:45 am  Meet the Expert Session  
*The Role of Ethics Committees in Pediatric Research*  
Francis Crawley, Good Clinical Practice Alliance, Belgium

09:00 - 09:45 am  Keynote Lecture  
*Moderators:* Cid Gusmao, IBPC - Instituto Brasileiro de Pesquisa do Câncer, Brazil  
Sergio Simon, Hospital Albert Einstein, Brazil  
*Role of Information Technology in Education, Patient Care and Research in Low Resource Settings*  
Frans Dhaenens, AGFA Belgium, Belgium

09:45 - 12:30 pm  **SESSION 8 (Plenary) Workshop: Palliative Care**  
**Joint Session with ACS - American Cancer Society**  
*Moderators:* Stuart Brown, King Faisal Specialist Hospital & Research Center, Saudi Arabia  
Claudia Epelman, Santa Marcelina Hospital, Brazil

09:45 am  **Welcome and Introduction**  
Stuart Brown, King Faisal Hospital & Research Center, Saudi Arabia

10:00 am  **The Civil Society and the Development of Palliative Care Services**  
Nancy Lins, ACS - American Cancer Society, USA

10:20 am  **Opioid Availability**  
Fraser Black, Victoria Hospice, Canada

10:40 am  **A Year in Hyderabad: A Collaborative Program in the Provision of Palliative Care and Palliative Care Training**  
Gayatri Palat, MNJ Institute of Oncology and Regional Cancer Center, India

11:00 - 11:15 am  **Coffee Break**

11:15 am  **Palliative Care - the African Experience**  
Faith Mwangi-Powell, APCA - African Palliative Care Association, Uganda

11:35 am  **Establishing a Palliative Care Service in a Cancer Hospital in Nepal - Meeting the Challenge**  
Sudip Shrestha, Bhaktapur Cancer Hospital, Nepal

11:55 am  **Discussion**

12:30 - 13:00 pm  **SESSION 9: Closing Session**

13:00 pm  **Lunch**
Awards Information

INCTR has introduced two awards that will be presented annually to individuals who have made outstanding contributions to cancer treatment or research in one or more developing countries. The purpose of these awards is not simply to recognize and honor the recipients, although this is certainly an important element, but also to demonstrate, by their example, that much can be accomplished even when resources are limited. It is hoped that their work and philosophy, brought through the award lectures, to a broader audience than would otherwise be the case, will inspire others to greater efforts.

Each of the awards is named after a distinguished oncologist. They began their careers when there was so little knowledge about the causes of cancer, that people could only live in fear that they would one day be a victim; the diagnosis was usually hidden from those unfortunate enough to develop cancer because so little could be done for them. It is thanks to the resolution and fortitude of Dr Nazli Gad-el-Mawla, Dr Paul P. Carbone, and others like them, who worked in a epoch when cancer specialists were often accused of prolonging the misery of cancer victims through their efforts at treatment rather than helping them, that today, at least in the wealthier nations, more than half of those who develop cancer can be cured. Both Dr Nazli and Dr Carbone were responsible for training numerous young people, and so leave us a precious legacy through which their work will be continued.

- The Nazli Gad-el-Mawla Award is made for outstanding contributions to cancer control by an individual from a country with limited resources. Nazli Gad-el-Mawla was a pioneer Egyptian oncologist, who, as a member of a small group of oncologists working at the National Cancer Institute in Cairo in the 1960s and '70s, helped to build the institute into one of the premier cancer centers in the Middle East. She founded the Department of Medical Oncology in 1970 and within it developed a strong pediatric oncology program. She is known particularly for her work in the chemotherapy of cancer of the bilharzial bladder, which accounts for some 25% of all cancer in Egypt, and in hematological malignancies. She was highly respected both by her colleagues in Egypt and also by the international community of oncologists in which she became increasingly active throughout her career. It is with the family’s consent that this award is given in the name of Dr Nazli Gad-el-Mawla.

The 2007 Award recipient is Dr. Ayan Cavdar.

- The Paul P. Carbone Award in International Oncology is made for outstanding contributions to oncology or cancer research by an individual from a resource-rich country. Paul P. Carbone was a pioneer American oncologist, who, as the Associate Director for the Clinical Oncology Program at the National Cancer Institute, Bethesda, played a critical role in the development of cancer chemotherapy. Subsequently, he continued his work as the Director of the Cancer Center at the University of Madison, Wisconsin. Throughout his career he recognized not only the needs of patients in developing countries, but also the contribution that scientific research conducted in such countries could and should make to the global efforts against cancer. Dr Carbone’s family have established a the Paul P. Carbone MD Foundation for “the support of scientific, educational, and charitable endeavors that reflect Dr. Carbone’s practice of the art and science of oncology and his lifelong dedication to teaching and mentoring.” It is with their consent that this award is given in the name of Dr Paul P. Carbone.

The 2007 Award recipient is Dr. Rengaswamy Sankaranarayanan.
Dr. Ayan Cavdar

Recipient of the Nazli Gad-el-Mawla Award 2007.

Dr. Ayhan O. Çavdar graduated from Ankara University (A.Ü.) in Turkey. After studying Pediatric Oncology and Hematology for 4 years in Washington University, USA she returned to Turkey and established a pediatric oncology unit in the Pediatric Department of A.Ü - a decade before pediatric oncology was introduced into other Turkish Universities.

Working with the NCI, USA, and the MoH, Turkey, Dr. Çavdar ensured the availability of necessary chemotherapeutic agents. She instituted a training and research program in Pediatric Oncology, the latter supported by the Scientific and Technical Research Council of Turkey (TÜBİTAK). She published in international journals and in 1976 was the recipient of the prestigious TÜBİTAK “Science Award.” In 1987 she founded the “Pediatric Oncology and Hematology Research Center” in A.Ü.

Dr. Çavdar was a founding member of the Turkish Academy of Sciences (TÜBA), established in 1992, and served two terms as its President during which time she formed a cancer committee that she continues to chair. At an international level, Dr. Çavdar was the first Turkish member of SIOP, ASPHO and CCSG, a National Counsellor for the ISH for many years and a founding member (1976), and subsequently President, of the Mediterranean Blood Club (1993-1995).

Her main contributions to childhood cancer in Turkey include the demonstration of the high frequency and poor prognostic significance of orbital granulocytic sarcoma in children with acute myeloid leukemia, the predominance of the MC subtype of Hodgkin’s disease and its association with zinc deficiency and Epstein-Barr virus in young children, and the strong EBV association and mixed sporadic and endemic features of Burkitt’s lymphoma in Turkey.

Dr. Rengaswamy Sankaranarayanan

Recipient of the Paul P. Carbone Award in International Oncology 2007.

Dr. Rengaswamy Sankaranarayanan has an MD Degree in Radiotherapy and Clinical Oncology from the University of Kerala, India and received further training in cancer epidemiology in the U.K. (Cambridge) and the U.S. (Pittsburgh).

He worked in the domains of clinical oncology, primary care and cancer epidemiology/cancer control at the Regional Cancer Centre, Trivandrum, India, from 1982 to 1993, as Assistant and Associate Professor. In 1993 he joined the International Agency for Research on Cancer (IARC), Lyon, France, which is part of the World Health Organization (WHO).

Since 2004, Dr Sankaranarayanan has been Head of the Screening Group (SCR) at IARC and is responsible for the programmes on early detection and prevention of cancer in low-resource settings.

He has a special interest in the screening and early detection of cancer, health service delivery and cancer control, particularly in low- and medium-resourced countries.

He is involved in a number of population-based, prospective randomized studies evaluating various approaches for the early detection and control of breast, cervical and oral cancers in challenging settings in Asia and Africa.

He has a strong commitment to research, training, program development and technical assistance in the domain of cancer early detection and control in low-and medium-resource countries.

He has more than 150 publications to his credit in international peer reviewed journals and has authored a broad range of widely used training manuals and electronic tools for cervical cancer screening.
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**CME ACCREDITATION AND CERTIFICATE OF ATTENDANCE**

The INCTR Annual Meeting 2007 has been appraised and approved by the Accreditation Council of Oncology in Europe (ACOE). ACOE is a multidisciplinary body of full time specialists practicing in the field of oncology recognized for their experience in education and expertise in their field. ACOE accreditation acknowledges the quality of the scientific program and its educational value. The conference has been designated for a maximum of 18 hours of European external CME credits. Following an agreement of mutual recognition between the European Union of Medical Specialists (UEMS) and the American Medical Association (AMA), CME credits are also accepted by the Physicians Recognition Award (PRA) in the United States.

Delegates are kindly requested to complete the general evaluation form before claiming their certificate of attendance.

The conference secretariat will not issue or mail certificate of attendance to participants after the conference.
ABSTRACT 44

EFFECTIVENESS OF A COGNITIVE-BEHAVIORAL INTERVENTION FOR EGYPTIAN CHILDREN WITH LEUKEMIA UNDERGOING ROUTINE BLOOD SAMPLING PROCEDURES: A PILOT STUDY

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BACKGROUND
Little attention has been paid to the applicability and effectiveness of cognitive-behavioral interventions with Arab pediatric oncology patients. The aim of this pilot study was to investigate the effectiveness of a cognitive-behavioral intervention package aimed at decreasing children’s pain during routine blood-sampling procedures at the Pediatric Inpatient Unit of the National Cancer Institute in Egypt.

PATIENTS AND METHODS
Children with leukemia (n = 17) aged 5-12 years old, in the induction phase of treatment were assigned to the control group (n = 11) or to the intervention group (n = 6). The study included one between-subjects factor (control group and intervention group) and a within-subjects factor (baseline assessment session and three post-intervention sessions). The intervention consisted of preparation, rehearsal, breathing exercises, interactive distraction, positive reinforcement and parental coaching. The control group received no formal intervention. During the baseline session, procedural injection was administered without any formal cognitive-behavioral intervention in either the control or treatment groups. During each blood sampling procedure, child distress was rated on the modified version of the Procedure Behavior Rating Scale (PBRS-R). Child self-report of pain and parent-rated pain were obtained using the FACES pain scale, and nurse rate on perceived pain was obtained using Visual Analog Scaling (VAS).

RESULTS
Results of repeated comparisons using ANCOVA with baseline measures as covariates indicated that parent-rated child pain was significantly reduced by the intervention when compared to the control group (p = .05) and this effect was maintained across the three post-intervention sessions. Child self-reported pain; nurse ratings of child pain and observed child distress were not significantly affected. Results were interpreted as promising but inconclusive due to the small sample size.

CONCLUSION
Critical factors that might have prevented treatment effectiveness were discussed, such as cultural barriers, heightened anticipatory anxiety and noncompliance to suggested coping skills. These observations suggest the need for further studies assessing and responding to culturally appropriate preferences in terms of skills and readiness of patients and caregivers in introducing cognitive behavioral interventions.

ABSTRACT 15

CLINICO-PATHOLOGICAL PROFILE OF HODGKIN’S DISEASE IN NIGERIANS

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BACKGROUND
The burden of lymphoma on the health system in Nigeria is enormous. The classification of lymphoma has changed with the development of new and specific cell markers. Correct classification is essential for diagnosis, treatment and accurate cancer registration. The data on Hodgkin’s lymphoma (HL) in Nigeria is scarce, outdated and mostly based on Haematoxylin and Eosin (H&E) stains only. This has necessitated this report.

MATERIALS AND METHODS
Eleven cases diagnosed as HL by H&E stain only in a university hospital within a period of seven years were studied. Serial sections of 5 μ were cut. Immunohistochemistry was performed using the indirect immunoperoxidase method. Immunohistochemical controls were performed by replacing the primary antibodies with non-immune sera. Disease staging was based on Ann Arbor system.

RESULTS
Only five out of the original eleven cases were found to be true HL on immunophenotyping, the rest were non-Hodgkin’s lymphoma (4 diffuse large B cell lymphoma, 1 null cell ALCL and 1 T-cell lymphoma). All five cases were classical HL. There were 2 males and 3 females. The oldest was 40 years old and the remaining four were 20 years old or younger, the youngest being 7 years old. All presented with cervical lymphadenopathy; splenomegaly was also seen in three cases. Four patients presented at advanced stages (IIIB-IVB); one at stage IIB. Three of the tumours were positive for EBV LMP1. Three patients had chemotherapy with good results in two, at least initially. The rest could not afford the cost of treatment and absconded after diagnosis. The three patients who received treatment were lost to follow up between 5-19 months after diagnosis.

CONCLUSION
Facilities for immunophenotyping must be available for proper diagnosis and appropriate management of lymphoma even in developing economies. Classical HL is the predominant type of Hodgkin’s lymphoma in Nigerians. The problem of cancer management in underdeveloped countries needs to be addressed.

ABSTRACT 12
SEVERITY, OUTCOME AND HISTOLOGICAL PATTERN OF GASTRIC CANCER IN A RURAL AND SEMI-URBAN NIGERIAN COMMUNITY

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BACKGROUND
Adenocarcinoma is the most common gastric malignancy, accounting for about 95% of primary gastric malignancies. In our environment, the true incidence of gastric cancer is unknown. This study aimed to determine the incidence, pattern and outcome of gastric malignancy in our center.

PATIENTS AND METHODS
The study was conducted at Awolowo University Teaching Hospital complex, Ile-Ife, Nigeria, which houses the Ife-Ijesa Cancer Registry. The histopathology results of 230 and clinical records of 160 patients with gastric cancer were reviewed.

RESULTS
230 patients were seen over a period of 16 years; an average of 14.4 per month. Gastric adenocarcinoma accounted for 93%, followed by gastric lymphoma (6%) and gastrointestinal stromal tumor (1%). The age
ranged from 7-95 years (median of 55). 139 of the patients (60.4%) were male and 91 (39.6%) female in a ratio of 3:2. Weight loss was the commonest symptom in 145 (94.2%), followed by anorexia, abdominal swelling, epigastric pain and vomiting in 70.8%, 70.8%, 66.2% and 62.6% respectively. Epigastric tenderness, anemia, epigastric mass and cachexia occurred in 83.1%, 76.0%, 68.2% and 55.8% respectively. Endoscopy showed about eighty percent of the tumors to be in the gastric antrum. 125 patients were operated; 87 (60.6%) had a laparotomy with or without gastrojejunostomy because the tumor was unresectable, only 35 patients (30.4%) had any form of resection. The prognosis was very poor with 5-year survival being about 14.0%.

CONCLUSION
Over 16 years, an average of 14 patients per month were seen at our center, with a male to female ratio of 3:2. Most of the patients had advanced stage disease with widespread intra-peritoneal metastases, unresectable tumors and thus had a poor outcome. A high level of suspicion by clinicians, health education for early presentation and availability of endoscopic facilities will facilitate early diagnosis and improve outcome.

ABSTRACT 19
CLINICO-PATHOLOGICAL CHARACTERIZATION OF HEAD AND NECK CANCERS IN ZARIA, NIGERIA: A PROSPECTIVE STUDY OF 80 PATIENTS

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OBJECTIVE
To investigate the clinical and pathological characteristics of Head and Neck Cancers seen at a large tertiary oncology referral centre in Northern Nigeria.

METHODS
A 3-year prospective study of 80 patients presenting with head and neck cancers. The patients were treated with Surgery, Radiotherapy, and Chemotherapy depending on the stage of disease, histologic type and performance status.

RESULTS
There were 50 males and 30 females of which 13 (16%) were children. The age range was 3 – 80 years (mean 39 years, median 40 years). 34% (23) of adults had a history of cigarette smoking, tobacco chewing or alcohol ingestion. No patient had a family history of cancer. Twenty four patients (30%) presented with symptoms of 6 months duration or less, 60% (48) had locally advanced disease; 15% (12) presented with metastatic disease. Only one patient was HIV seropositive. The eye (20%) was the commonest site, followed by the Nasopharynx (16%) and Squamous Cell Carcinoma (44%) was the commonest histologic type. Excisional biopsies were done in 39% (31) of patients, 71% (57) had Radiotherapy and 43% (34) received combination chemotherapy. Post-treatment evaluation 6 weeks after completion of treatment showed that 78% (62) had a complete remission. Overall, 68% (54) are alive, 10% (8) confirmed dead, and 23% (18) and were lost to follow up.

CONCLUSION
Although this is a small series, ocular malignancy is the commonest organ of origin and Squamous Cell Carcinoma is the commonest histologic type. Most of the patients present late and with locally advanced
disease. With a multidisciplinary approach, complete remission was attainable in the majority of patients. Follow-up remains a challenge in the management of cancer patients in this environment.

**ABSTRACT 54**

**EPIDEMIOLOGY OF CANCER IN THE MIDDLE AGED AND ELDERLY POPULATIONS IN A DEVELOPING ECONOMY; NEED FOR PROPER RESOURCE ALLOCATION AND PERSONNEL TRAINING**

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**BACKGROUND**
Cancer is emerging as a major cause of death in developing countries. In order to prioritize health care resources, the pattern of occurrence and the current surgical treatment of different cancer types must be determined. We retrospectively reviewed the hospital’s operating records, to find out the areas of greatest need with respect to cancer types.

**MATERIALS AND METHODS**
We extracted and analyzed relevant data from the hospital’s operating records for the 3 General Surgical Divisions. The hospital is a tertiary health care centre, serving as the referral centre for more than 10 million people. Operations done on patients more than 40 years old, from January 2004 to December 2005 (a 24 month period), were included in the analysis.

**RESULTS**
A total of 210 operations were done for general surgical malignancies in the 3 Divisions over the study period. 50% of the patients were between 41 and 60 years of age. 8% were 70 years and older. The majority were female; 72.4%, with a male to female ratio of 1:2.6. More than half of the cases were breast cancers (51.9%). Others were gastrointestinal (30%), colorectal; (24%), stomach; (6%), soft tissue sarcomas (6%), thyroid cancers (3.3%) and salivary glands (3%). 13.8% of the operations were done on an emergency basis; more than half in colorectal cases who presented with acute intestinal obstruction. Virtually all the breast cancer operations were modified radical mastectomy.

**CONCLUSION**
Most cancer operations in middle aged and elderly patients were for breast cancer, especially in women. A significant proportion of the emergency operations were performed for colorectal cancers presenting with acute intestinal obstruction. Appropriate health care personnel training and adequate resources are urgently needed in these areas, for effective and modern control of an emerging epidemic in developing economies.

**ABSTRACT 2**

**EVALUATION OF THE PROGNOSTIC FACTORS IN CHILDHOOD ACUTE LYMPHOBLASTIC LEUKEMIA (ALL)**

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OBJECTIVE
Study the presenting features of newly diagnosed children with ALL and to determine their prognostic significance.

MATERIALS AND METHODS
The presenting features for 59 children with newly diagnosed ALL admitted to the Central Teaching Hospital for Children, Baghdad, between July 2001 and July 2002, were evaluated to determine their prognostic significance. The patients received uniform treatment. Response to induction treatment, relapses and deaths were documented. The patients were followed up for at least 2.5 years.

RESULTS
There was a high incidence (40.7%) of ALL-L2. Complete remission (CR) was achieved in 81.4% of patients; 46 patients (79.3%) developed recurrent leukaemia. The bone marrow was the commonest site (50%) of relapse. Median duration of remission was 10.5 months. The overall survival at 2.5 years was 40.7%. Univariate analysis of presenting features confirmed that age, significant organomegaly, WBC > 50x10^9/L, severe thrombocytopenia, elevated LDH, IgG and IgM levels, together with FAB subtype and the presence of mediastinal mass, significantly influenced the CR rate, Gender, organomegaly, serum IgA level and FAB subtype significantly affected the probability of relapse. All patients with high WBC count and a mediastinal mass relapsed.

CONCLUSION
Age, liver/spleen size, WBC count, LDH level, FAB subtype and the presence of a mediastinal mass were significant prognostic factors. There was a high incidence of induction failure and relapse, with a relatively low overall survival at 2.5 years, but comparable to that in other developing countries. We think the inferior results in our patients (apart from the effect from risk factors) are contributed to by the lack of advanced investigations, supportive measures and intensive chemotherapy.

ABSTRACT 71
RISK FACTORS FOR CERVICAL CANCER IN LAGOS – NIGERIA

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BACKGROUND
Cervical cancer is the most common genital cancer in Nigeria and the most common cancer in women in certain parts of the country. Many patients present with late stage disease. Mortality of cervical cancer in Nigeria is very high. HPV is now known to be a cause of cervical cancer and it is found in 99% of cases. Certain co-factors modulate the oncogenic effect of HPV. We determined these co-factors among patients with invasive cervical cancer in Lagos.

PATIENTS AND METHODS
A hospital-based case control study was conducted at the Lagos University Teaching Hospital between 2002 and 2003. Information on co-factors was collected through personal interview using a structured form. Odds ratio and 95% CI were calculated using Epi Info 2002.

RESULTS
There were 98 cases of invasive cancers and 162 matched controls. The co-factors identified were parity >7 vs <5 (OR 35.6, 95% CI 16.6-77.5), age at first delivery <19 years vs. >19 years (OR 33.5, 95% CI 15.7-72.7), positive history of abortion (OR 2.7, 95% CI 1.48-5.14), number of sexual partners >5 vs. <5 (OR 38.8, 95% CI 17.7-86.7) and previous use of traditional/local methods of contraception (insertion of herbs and other concoctions, usually unhygienic) into the vagina (OR 7.1, 95% CI 2.6-22.0).
CONCLUSION
The results of this study have further emphasized the role of parity and poor genital hygiene in the aetiology of cervical cancer.

ABSTRACT 69

PATIENT AND DISEASE PROFILE OF COLORECTAL CANCER PATIENTS AT A TERTIARY CARE CANCER HOSPITAL IN PAKISTAN

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AIM
To describe patient characteristics and treatment outcome of colorectal cancer at a regional cancer hospital.

INTRODUCTION
Knowledge of the epidemiology of colorectal cancer is a prerequisite essential to a better understanding of the aetiology of the disease and the development of prevention strategies.

METHODS
The following study was conducted in patients with colorectal cancer registered at a tertiary care cancer hospital in Lahore. A retrospective analysis was conducted on data collected over ten years. A descriptive analysis of patient and disease profile, and outcome was performed. Survival analysis was performed using the Kaplan-Meier method.

RESULTS
A complete set of data was available for 593 patients. Further analysis was conducted on these patients. Sixty percent of the patients were under 50 years of age, the mean age was 46.6 years, with a male:female ratio of 1:1.89. The majority of the patients (50.8%) had a tumor in the rectum, whereas 21.1% were found to have developed a tumor in the colon. Among the 593 patients, 67.1% had adenocarcinomas, 19.6% had mucinous adenocarcinoma and 5.7% had Signet ring carcinoma. Two hundred and three patient had details of colonoscopic findings in their records. Of these, 187 (92.1%) were found to have a single tumor, 4 (1.9%) had multiple tumors, 11 (5.4%) had tumors with polyps and 1 (0.5%) had multiple polyps. Histological examination revealed that 45% of patients had moderately differentiated tumors. A total of 182 (30.7%) patients presented in early stages of the disease (Stage I (6.1%) and II (24.6%)), however most of the patients (411; 69.3%) presented with Stage III (28.8%) or IV (40.5%) disease. Death was recorded in 167 patients (27.7%). The overall median survival was calculated to be 53.6 months.

CONCLUSION
In general, we share many epidemiological features of developing countries for colorectal carcinoma. These include a younger age at presentation, subsite distribution and delayed presentation of the disease in an advanced stage. We stress the significance of public awareness regarding colorectal cancer to improve the outcome.
ABSTRACT 70

HUMAN PAPILLOMAVIRUS ASSOCIATED WITH ESOPHAGEAL CANCER IN PAKISTAN - A RETROSPECTIVE ANALYSIS

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AIM
To determine the role of human papillomavirus (HPV) in the development of esophageal cancer in patients seen at a regional cancer hospital in Pakistan.

INTRODUCTION
At the Shaukat Khanum Memorial Cancer Hospital and Research Center, (SKMCH and RC), located in Lahore, Pakistan, cancer of the esophagus accounted for nearly 1.9 percent of the total malignancies registered or diagnosed at the hospital from December 1994 to April 2004. It also ranked as the fifteenth commonest invasive malignancy seen at the hospital. The association of HPV infections with carcinoma of the esophagus has been contradictory. Detection rates of HPV DNA in esophageal carcinomas derived from high risk areas such as Iran, China, Caspian Sea, Afghanistan and certain parts of Central Asia are high. The Northwest Frontier Province (NWFP) and Baluchistan are provinces of Pakistan that border countries in the esophageal cancer belt, Iran and Afghanistan on the west (Baluchistan) and China in the north (NWFP). The implication of human papillomavirus (HPV) in esophageal cancer has not been assessed in patients in Pakistan.

METHODS
Paraffin embedded esophageal cancer biopsies were screened for HPV DNA. Nucleic acid was extracted from archival tissue and screened with beta globin primers to assess integrity of the isolated DNA. A non-specific PCR using three different PCR primer sets; the GP+, FAP primers and CP primers amplifying different regions of the L1 ORF and covering all groups of known HPV types were used in the analyses. Amplified products were analysed by agarose gel electrophoresis.

RESULTS
A total of 70 esophageal cancer biopsies were screened for HPV DNA. The biopsies screened had been embedded between 1997 and 2003. Of these, 88.6% were squamous cell carcinomas (SCC) and 11.4% were adenocarcinomas (AC). The majority of the patients were from the Punjab (50%), followed by 35.7% from the NWFP. All the samples tested were negative with the CP and FAP primers. However, 51.4% (36/70) were positive with the GP primers. The GP primers amplified DNA from 4 of the 8 samples of AC. Fifty-three point two percent of the SSC were positive with the GP primers.

CONCLUSION
HPV DNA was shown to be present in over fifty percent of the esophageal cancer seen at SKMCH & RC. Further work is needed to confirm initial results and to identify the type of HPV present.

ABSTRACT 3

BRACHYTHERAPY FOR RETINOBLASTOMA IN GUATEMALA

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BACKGROUND
Retinoblastoma is the third commonest childhood cancer in Guatemala. A coordinated effort with St Jude Children’s Hospital, (ORBIS Telemedicine Program) has made our country a Central American referral center for the treatment of this cancer. Brachytherapy (I125) began in April 2005 in Guatemala.

MATERIALS AND METHODS
110 retinoblastoma patients are currently registered at Unidad Nacional de Oncologia Pediatrica (May 2006). An average 204 consults per year are evaluated under general anesthesia for ocular thermoreduction treatment and chemotherapy. Multiple follow up visits are required for advanced stage disease. Seven patients have received brachytherapy to date. 4 are originally from Guatemala, 2 from El Salvador and 1 from Mexico. Ocular gold implants were placed trans-sclerally and left for an average of 90 hours. Previous radioactive seed placement (I125) as implants was performed according to tumor size and location. Ocular evaluation for tumor response was done 5 weeks after plaque removal.

RESULTS
R-E Staging for the 7 patients showed: 1 stage IIIa, 2 stage IIIb, 1 stage IVb, 1 stage Va and 2 stage Vb. 4 patients were male and 5 female. All patients had completed six chemotherapy cycles (Vincristine, Etoposide, Carboplatin) and presented with recurrent/progressive tumors, that did not respond to local thermoreduction modalities (Dyode laser and cryo). One patient failed brachytherapy treatment and required enucleation of the remaining eye (with no sight) due to increased vitreous seeding and vitreous hemorrhage. Six patients (85.7%) showed tumor regression after plaque removal in a one year follow up period. No patients showed scleral/orbital secondary effects.

CONCLUSION
Brachytherapy was effective at one year of follow up in treating end stage retinoblastoma in six patients. Efforts are being directed towards salvaging eyes, providing individualized diagnostic, therapeutic and counseling modalities in order to save sight.

ABSTRACT 36
A PAIN ASSESSMENT TOOL FOR CANCER PATIENTS, WITH PAIN AS THE FIFTH VITAL SIGN

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BACKGROUND
The presence of pain is often an integral part of the advanced stages of cancer. Pain assessment is the first and most crucial step in trying to bring comfort and analgesia to a cancer patient. We present the results of a simple pain assessment tool that was used by nurses and doctors for in-patients in our Department.

METHOD
A pain assessment chart modified from other validated pain assessment tools used in many western hospitals was piloted for six months. All nurses and doctors were briefed on the content and interpretation of the chart. Every patient who was started on pain medication would have this chart included as part of his vital sign charts. During medication rounds by the nurse, she would assess and record the findings and inform the ward doctor if any dose adjustment is required.

RESULTS
Data was analysed for 169 in-patients (70 male & 99 females) during 2002. The mean age was 48.4 years (age
range 17-78 years). The results revealed that there were 10 patients with mild pain, 121 with moderate pain and 38 with severe pain. In patients with severe pain, 61% had their pain reduced to mild pain and 39% to moderate pain on discharge. For those with moderate pain, 97% had their pain reduced to mild pain, 2% still had moderate pain and 1% had no pain on discharge. The mean number of days to achieve this pain reduction using the WHO step ladder method of reduction was 3.1 days (SD: 2.9 days).

CONCLUSION
The findings indicate that the pain assessment tool is reliable, easy to use and interpret. The tool allows continuous pain assessment in an objective manner. This tool enables us to monitor pain as the fifth vital sign when required, as achieving good pain control is the right of every patient based on WHO guidelines.

ABSTRACT 13
THE ROLE OF FINE NEEDLE ASPIRATION CYTOLOGY IN THE DIAGNOSIS OF PAROTID TUMOR

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BACKGROUND
The pre-operative evaluation of parotid tumor with fine needle aspiration cytology (FNAC) is widely used and accepted worldwide. This study was performed to evaluate the use of FNAC as a pre-operative tool for the diagnosis of parotid tumor in our institution.

PATIENTS AND METHODS
A retrospective study was conducted at University Science Malaysia (USM) Hospital, Malaysia with no involvement of any cytopathologists or operating surgeons. Patients underwent parotidectomy between 1996 and 2005 and were retrospectively identified from the operation theatre Pathology databases. The definitive histopathological diagnosis was compared with the preoperative FNAC diagnosis. FNAC results were classified as suggestive, non-diagnostic, misleading or sampling error.

RESULTS
Overall, data was obtained on 38 patients undergoing parotid gland surgery with pre-operative FNAC. The sensitivity in distinguishing malignant from benign disease was 57%, with a specificity of 76%. The overall accuracy of FNAC that could influence a management decision by the clinician was 74%.

CONCLUSION
The FNAC yielded a diagnostic accuracy of 74 per cent, compatible with the results of other centres reported in the literature. As the FNAC results are likely to influence the management, the results should be interpreted with caution because of the relatively low sensitivity of FNAC for malignant parotid tumors.
THE CAIRO BREAST SCREENING TRIAL (CBCST)

ABSTRACT 16

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BACKGROUND
The Cairo Breast Screening Trial (CBST) was designed to evaluate the role of clinical breast examination (CBE) as a primary screening modality in the context of primary care, coupled with the provision of adequate treatment for detected cases, in reducing both the morbidity and mortality from breast cancer.

MATERIALS AND METHODS
An initial pilot phase of the CBST involving 4,116 women has been completed. In that phase, a specialised medical centre in Cairo (the Italian Hospital) was selected as the headquarters of the study. An area around the Italian Hospital was geographically defined. The target group was the approximately 5,000 women aged 35-65 living in this area. Maps of the area were obtained, and divided into blocks. Larger scale maps of each of the blocks were made. Trained social workers conducted door to door visits to the houses in the blocks allocated to them, and invited women in the relevant age group to participate in the study. Those 4,116 women who agreed to participate were given an initial enrolment questionnaire, and invited to attend a primary health centre for CBE. Those found abnormal were referred to the Italian Hospital for investigation and treatment. In the second year, cluster randomization was performed and half the women were re-contacted, and invited to attend for screening. In the third year, those not contacted in the second year were visited at home and their health status determined. The study has since been expanded within Cairo to two other areas and approximately 10,000 women aged 40-64 are now under observation in these areas. Women are identified by social workers, and those in areas allocated to screening (study group) are invited to attend a local primary health centre (PHC) for screening by CBE given by carefully trained female doctors and are taught breast self examination (BSE). Those found to have a suspicious breast abnormality are requested to attend the Italian Hospital for diagnosis, and those suspected to have breast cancer are biopsied and treated free of charge if the diagnosis is confirmed. The other group act as the control arm. The social workers visited the women included in this group & filled in a questionnaire designed to determine whether or not they have had any breast problem. If so, they were asked if they had any documentation of that. Results are being carefully monitored.

RESULTS
The pilot study confirmed that breast screening, using CBE by female doctors detects a high rate of breast cancer; about 8 per 1000 at the first examination and 2 per 1000 among those who attended for re-screening. This suggests that a mortality benefit might be observed if a study with sufficient power proves feasible. It became apparent, that a substantial segment of women in the community, are resistant to attempts to involve them in screening programs. These women appear to comprise a high risk sub-group, with a prevalence of breast cancer at least as high as those who attend, on whom special surveillance and general public education efforts are justified.

CONCLUSION
Encouraging is the fact that 68% of the screen-detected cancers are stage II or less, whereas experience in the National Cancer Institute - Cairo suggests that only 20% are normally diagnosed at an early stage.
**ABSTRACT 24**

**ARSENIC TRIOXIDE FOR TREATMENT OF MULTIPLE MYELOMA**

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**BACKGROUND**

Arsenic trioxide is an inorganic trivalent compound. Its preclinical studies demonstrate dose-dependent induction of apoptosis in several cell lines that is not blocked by the prosurvival cytokine, interleukin-6. It also induces apoptosis in drug-resistant Multiple Myeloma. The apoptosis induction is mediated via production of ROS which destroy mitochondria because any alteration in the cellular antioxidant status causes arsenic-induced cell death. Pharmacokinetic analysis showed that daily intravenous administration of arsenic trioxide did not result in any accumulation of arsenic in tissue. The aim of our study was to determine the response of Multiple Myeloma to arsenic trioxide and to see the toxicity profile of arsenic trioxide in the Asian-Indian population.

**MATERIALS AND METHODS**

During the period from July 2005 to July 2006, we selected 10 consecutive patients with relapsed refractory Multiple Myeloma. All patients had a performance status > 60%. The median age of the patients was 65 years (range 52 to 76 years). All patients were treated with arsenic trioxide 10mg (Alkem/India) daily, as a 2 hour infusion every 28 days. 3 cycles were given at 15 day intervals. All patients were evaluated after 3 courses of arsenic trioxide. Response assessments comprised haematological indices, bone marrow & quality of life assessment.

**RESULTS**

3 patients showed a complete response, 4 patients a partial response and 2 had progressive disease. 1 patient had stable disease. The only mild adverse effects were seen in the form of nausea, vomiting, diarrhea, abdominal pain & dermatitis in 30% of patients. Only one patient had QT prolongation on the ECG.

**CONCLUSION**

We conclude that arsenic trioxide is a very useful drug in multiple myeloma. It is also well tolerated in the Asian Indian Population.

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**ABSTRACT 87**

**SPECTRUM OF CASES REGISTERED WITH A HAEMATO-ONCOLOGY UNIT OF A COMPREHENSIVE PEDIATRIC SPECIALITY HOSPITAL IN CHENNAI, INDIA**

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**BACKGROUND**

Pediatric Oncology is a challenging specialty in a developing country. India is still among the low income countries of the world. The proportion of children with cancer surviving is relatively lower than in most of the developed nations, though most of the childhood cancers are prevalent in this part of the world. Many
causes such as biology of the disease, lack of awareness, late referral, limited resources and complications with infection and nutritional problems account for it. The spectrum of disease also differs based on the hospital setup.

METHODS AND MATERIALS
We report 257 cases of children under 18 years of age, registered between January 2002 and June 2006 at Kanchi Kamakoti Child Trust, Chennai, India - a hospital recognized by the Medical Council of India for training in childhood diseases.

RESULTS
53% of cases had Acute Lymphoblastic Leukaemia and 8.9% had Hodgkin’s and non-Hodgkin’s Lymphomas. There were 14 Acute Myeloid Leukemias and 5 cases of Chronic Myeloid Leukemia. Thus the majority had haematological malignancies. The remainder were: Neuroblastoma (N=16), Wilm’s tumor (N=9), Hepatoblastoma (N=2), etc. There were 12 Brain tumors and 5 Medulloblastomas. This is because of the availability of expert Pediatric Surgeons and other pediatric subspecialties. The stage of disease in all the malignancies was early in 60% of patients and often curable, as compared to only 38 % with early stage disease who come to major Regional Cancer Centres for treatment, after multiple referrals.

CONCLUSION
The cases registered and stage of presentation in a Comprehensive Pediatric and Adolescent Hospital are different from that of a Cancer Center treating both adult and young patients. This paper highlights the differences in spectrum of malignancy and stage related to a Comprehensive childhood cancer center. Very few such Pediatric Oncology Units with all of the pediatric medical and surgical subspecialties (as per ‘American Academy of Pediatric ‘ recommendations) are available to treat childhood cancers in India. This Hospital ‘Child Trust ‘ is one of the few hospitals (the others are the Christian Medical College Vellore and Institute of Child Health, Chennai) in the state of Tamil Nadu, India which satisfy the minimum requirements of the National Board of Examinations in India for Treatment of Children with cancer. We hope that in the future we will be able to improve our survival rates when young adults and children are registered and treated In a Childrens Hospital Oncology Unit.

ABSTRACT 65

PALLIATIVE CARE PROGRAMS FOR REMOTE AREAS: A PROTOTYPE PROGRAM IN BORNEO ISLAND, MALAYSIA

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BACKGROUND
Palliative care and opioid availability is difficult to ensure in remote areas of developing countries. On Borneo Island where a lot of villages are difficult to access, a home care program has been set up. The Malaysian state of Sarawak covers 124,450 square kilometers and includes 2.25 million inhabitants, 50% of whom live in remote rural areas. The age standardized incidence of cancer is around 146/100,000 with 70% of cases presenting at a late stage. Before the palliative program started, terminally ill patients were sent home without medication or follow up.

MATERIALS AND METHODS
The program was designed and run by the radiotherapy department of the general Hospital of Sarawak (DRO) and consisted of 4 components: 1/ Training: nurses, pharmacists and doctors coming from the 21 government hospitals, 8 polyclinics, 119 semi-rural clinics (KK) and 97 rural clinics (KD) of Sarawak were enrolled in a 2 phase training program about palliative care. The 1st phase consisted of a 3 day training program about the basics of palliative care, with practical sessions on wound dressing, patient hygiene, physiotherapy, aromatherapy,
etc. Taking place 1 or 1.5 years later, Phase II was directed at nurses who had experience of home care and consisted of case studies and practical discussion 2/ Empowering nurses: KK and KD nurses in contact with DRO nurses coordinated patient follow-up and the morphine supply to hospital and rural clinics. 3/ Simplified referral: patients could be referred by any doctor, nurse or family member and were admitted to the program by the Oncologist after assessing the patient and advising on management. 4/ Easier access to medication: a mechanism to make aqueous morphine available at the KK and KD level and 1 month supply available to patients was set up.

RESULTS
In 6 years, 850 staff members (pharmacists, doctors and nurses) were trained. Training for pharmacists could be withdrawn after a few sessions as the concept of palliative care had been assimilated by the pharmacists of Sarawak. Training of doctors was not cost effective because of the high turnover of doctors in rural areas. However, withdrawal of doctor training did not affect the program. From five training sessions per year in the first year, we were able to decrease to one phase I training per year and one phase II training every 2 years, after 5 years. Since the beginning of the program, 605 patients including 50% from remote rural areas had access to the program. The main barriers to efficient home care were 1/ the family beliefs in inefficient alternative medicine which may affect the patient’s well-being. 2/ Morphine posology decreased by the family because of fear of drugs. Following a request to the state directory of Sarawak, the 2 weeks morphine availability policy was extended to one month. No illegal abuses of Morphine were reported during the 6 years of the program.

CONCLUSION
Effective organization and empowerment of nurses are the most important determinants of the success of a home care program for remote areas. Education of the family is also a key aspect, as this has to be tailored in a culturally sensitive way as families are prompt to reject modern medicine and modern medicine providers when they confront traditional habits.

ABSTRACT 14

KEY PROGNOSTICATORS FOR POSTOPERATIVE ADJUVANT THERAPY OF GliOBLASTOMA MULTIFORME: IMPLICATIONS FROM AN AUDIT OF PATIENTS TREATED OVER A 15-YEAR PERIOD

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BACKGROUND
An audit of glioblastoma multiforme (GBM) patients seen over a 15-year period in a single institution was carried out to identify the key prognostic factors and group patients on the basis of these prognosticators to define a possible strategy for postoperative adjuvant therapy.

MATERIALS AND METHODS
Two-hundred and fifty one patients with GBM, treated at a single institution during 1990 to 2004 were identified from the database. Various demographic and treatment-related factors were evaluated to identify prognostic variables for overall survival (OS). Patients were grouped on the basis of these major prognostic variables. The impact of postoperative therapeutic interventions, namely radiotherapy and chemotherapy, on OS for each of the groups was studied.

RESULTS
Follow-up ranged from 0.8-77 months (median: 7.5 months). One, 2 and 5 year OS were 29%, 6.8% and 1.7% respectively. Younger patients (age<50 years), higher Karnofsky performance status (KPS >70) and those having better neurological performance status had a significantly favorable OS (all P<0.0001). Survival was better
with higher doses of postoperative radiotherapy (RT) (>60Gy, \( P=0.014 \)) and use of adjuvant chemotherapy (CT) \( (P=0.005) \). Extent of tumor resection - total or partial, had no significant impact on OS \( (P=0.964) \). On multivariate analysis – age, KPS and RT doses were independent prognosticators of OS. Based on age \( (<50 \text{ vs. } >50) \) and KPS \( (<70 \text{ vs. } >70) \), GBM patients could be classified into 3 distinct groups - I, II and III, each having significantly different OS (median survivals: 10.8, 8.2 and 4.1 months respectively, \( P<0.0001 \)). A trend towards benefit in OS was found with higher doses of RT \( (P=0.07) \) for the best prognostic group (group I) and with CT \( (P=0.07) \) for the worst prognostic group (group III).

**CONCLUSION**

Based on the primary prognosticators – age and KPS, patients with GBM could be segregated into 3 groups, to outline optimal postoperative adjuvant treatment with radiotherapy and chemotherapy. The results of this audit, showing the impact of postoperative adjuvant treatment in the form of RT and CT on OS in the 3 groups, could form the basis for selectively using RT dose escalation strategies and CT for each of these groups.

**ABSTRACT 34**

**IODINE 125 PLAQUE RADIOTHERAPY FOR RECURRENT RETINOBLASTOMA WITH LOCALIZED VITREOUS SEEDING AFTER CHEMOREDUCTION**

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**BACKGROUND**

Chemoreduction failure in retinoblastoma presenting with vitreous recurrence usually requires external beam irradiation or enucleation.

**OBJECTIVES**

To evaluate the efficacy of Iodine 125 plaque radiotherapy for recurrent retinoblastoma presenting with active localized vitreous seeding after chemoreduction.

**DESIGN**

A prospective nonrandomized and non comparative case series managed at the Ocular Oncology Unit from September 1997 to September 2006. Eligibility criteria included recurrent localized vitreous seeds alone or with retinal retinoblastoma tumor extending less than 3 clock hours (15 mm) in largest basal diameter and less than 8.0 mm in height in the vitreous cavity, documented after 6 cycles of intravenous chemoreduction (vincristine, etoposide, and carboplatin).

**PATIENTS AND METHODS**

14 children (unilateral, non-hereditary retinoblastoma in 4 cases and bilateral hereditary retinoblastoma in 10 cases) presented with 14 eyes containing 17 recurrent vitreous retinoblastoma tumors. The radiation protocol was designed to include the localized vitreous seeding with an adequate dose of 40 Gy at the tumor apex and delivered with an episcleral customized iodine 125 plaque.

**MAIN OUTCOME MEASURES**

Tumor recurrence and treatment complications.

**RESULTS**

The mean child age at plaque treatment was 21 months. Recurrence (active vitreous seeds alone [3] and active vitreous seeds with retinal tumor [14]) was detected after a mean interval of 6 months after chemoreduction. The mean largest basal tumor diameter was 12 mm (range, 6 to 15 mm) and tumor thickness 6 mm (range, 4 to 8 mm). The mean distance to the disc was 8 mm and to the fovea 8.5 mm. After a mean total follow-up of 48
months, tumor recurrence was documented within the 40 Gy-isodose curve in one eye (6%). Final enucleation was eventually performed in 3 eyes (18%) as treatment of tumor recurrence after plaque radiotherapy in one eye and treatment of tumor recurrence elsewhere within the globe in 2 eyes. Using Kaplan Meier estimates, tumor control were 94% at 1 year, and 85% at 5 years and globe salvage rate was 92% at 1 year, and 81% at 5 years. Radiation retinopathy and cataract was documented in 6 eyes (35%) and in 7 eyes (41%) respectively.

CONCLUSION
Iodine 125 plaque radiotherapy for selected recurrent retinoblastoma with localized vitreous seeding after chemoreduction provides tumor control in 85% of cases and globe salvation in 81% at 5 years of follow-up. It is particularly useful for those with localized recurrent vitreous seeding that fails to respond to treatment with chemoreduction.

ABSTRACT 41
CANCER CONTROL AND AWARENESS PROGRAMMES FROM THE EASTERN PART OF INDIA

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BACKGROUND
The total cancer burden in India, a developing country is 2 million and there is an increment of 1 million new cancer patients per year, which is 1/10 of the total cancer burden in the world. The majority of cancers in this part of the country are tobacco and diet-related. It is estimated that by proper preventive measures, we could reduce the current level of increment from 1 million to 10 thousand annually by 2020. The aim of our state based non-Governmental cancer control program is to reduce the cancer burden by proper awareness of signs of cancer, early detection and early appropriate treatment.

MATERIALS AND METHODS
During the period of January 2002 – December 2005, a cancer screening and awareness program was conducted in various districts of West Bengal twice in every month by the Himadri Memorial Cancer Welfare Trust and Netaji Subhash Chandra Bose Cancer Research Institute. We mainly deal with oral cancer by examining the oral cavity, and asking for any history of tobacco intake, breast cancer by self breast examination and cervical cancer by Pap Smear examination. The cases which are detected positive are sent to our hospital for planning of appropriate treatment and advanced cases are referred for Pain and Palliative Treatment in our Institution.

RESULTS
Usually, in all localities, 80% of people participated; the female attendance was usually more. On an average, the female cancer incidence was 60%. Cervical cancer was the commonest cancer of rural West Bengal whereas oral cancer is commonest among men. 80% of men and 20% of women used tobacco. Red meat eating was prevalent in the total population. We have screened a total of 1.2 million of the population and we found 9,600 (8%) cancer patients in different stages of disease. A total of 5,568 (58%) were females and 4,032 (42 %) were male. 75% of male and 35% female cancers were tobacco related - either smoking or chewing. In women, the incidence of cervical and breast cancer was 30% and 24% respectively. In men, the incidence of oral and lung cancer was 36% and 30 % respectively. A total of 65% of cancers were detected in early stages and the rest (35%) were in advanced stages.

CONCLUSION
The cancer of rural Bengal in the majority of cases is lifestyle-related and can be prevented by proper awareness. So the cancer detection and awareness camps are very useful in rural areas and ultimately can reduce the huge burden of cancer.
ABSTRACT 73

ALTERATIONS IN SERUM PROTEIN COMPOSITION IN PATIENTS WITH NON-HODGKIN’S LYMPHOMA

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PURPOSE
To investigate the correlation between alteration in the protein fractions of alpha-fetoprotein and cancer embryonic antigen concentrations in serum with the histological subtype and clinical stage of patients with non-Hodgkin's lymphoma (NHL).

MATERIALS AND METHODS
Twenty untreated patients with NHL and ten eligible healthy persons were included in this study from 1996 to 1998. Histological subtype was established according to the Working Formulation. Clinical stage was established according to the Ann Arbor Classification. The median age was 36 years (range 16-71). The male to female ratio was 2,2:1. Total protein concentration was detected by a refractometric method. Protein fraction concentrations were detected by a turbidimetric method. Alfa-fetoprotein and cancer embryonic antigen concentrations in serum were detected by a radioimmunologic method.

RESULTS
The alpha-fetoprotein concentration in all twenty Non-Hodgkin’s Lymphoma patients was normal. Concentration of cancer embryonic antigen was elevated in one patient with Primary Cutaneous Lymphoma. The albumin fraction concentration in the serum of twenty NHL patients at all clinical stage was low. The gammaglobulin concentration in twenty patients with NHL was elevated at all clinical stages and in both intermediate and high-grade malignancy.

CONCLUSION
There is a correlation between alterations in the protein fractions of alpha-fetoprotein and cancer embryonic antigen concentration in serum of patients with non-Hodgkin’s lymphoma according to histological subtype and grade of malignancy as well as clinical stage.

ABSTRACT 49

RESULTS OF SURGICAL TREATMENT OF LOCALISED GASTRIC CANCER

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BACKGROUND
To study the results of surgical treatment of localised gastric cancer.

METHODS
Extended-combined gastrectomy was performed, from 1998 to 2003, in 160 patients - male 110 (68.7%), female 50 (31.3 %) - with gastric cancer T4N0-2M0. Proximal stomach cancer, including transition to distal parts of the esophagus had been diagnosed in 60 patients (37.5%), in 31 (19.4%) patients the cancer involved the body of the stomach and proximal parts and in 69 (43.4%) patients, the whole stomach
was involved. Infiltrative cancer growth was noted in 98 (61.2%) patients, endophytes in 39 (24.4%) and exophytes in 23 (14.4%). Extended-combined gastrectomy with D2 lymph dissection and resection of 1 up to 4 adjacent organs was performed in all patients. In 44 patients gastrectomy with resection of the distal part of the esophagus was performed. In 8 patients the operation involved atypical liver resection due to penetration by the gastric cancer. In 71 patients (44.4%) cancer invasion to the pancreas had been diagnosed and in 29 patients the operation involved resection of the distal part of pancreas. In 5 hemipancreatectomy was performed and in 37 cases, partial resection of the pancreas was required. 66 patients are included in the control group; they received systemic combination chemotherapy, between 1990 and 1995 for localised gastric cancer.

RESULTS
Postoperative complications were observed in 36 patients (22.5%): in 5, postoperative pneumonia, in 2 - eventeration, in 8 - esophagoenterostomy leak, in 2 - myocardial infarction, in 2 - tromboembolism of the pulmonary artery, in 5 - pancreatic necrosis, in 2 - enteral fistula, in 2 - hemorrhage and in 8 - suppuration of the postoperative wound. The postoperative mortality was 9.3 % (at standard gastrectomy, it is 5.8 %). One-year overall survival was 74.2%±0.3% at 3 years, 28.2%±0.4%, and at 5 years, 7.5±0.4%. In the control group after chemotherapy, the median survival was 8.2±0.4 months.

CONCLUSION
Invasion of tumor to adjacent structures is not a contra-indication to operative treatment. The long term results of the extended-combined operation are better in comparison with combination chemotherapy in the control group and this gives the moral right to surgeons to perform this kind of operation.

ABSTRACT 50

A + M

BREAST CANCER IN UZBEKISTAN

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BACKGROUND
To study the incidence and pattern of breast cancer in the Republic of Uzbekistan in terms of women's ethnic origin.

MATERIALS AND METHODS
Epidemiological investigations were carried in 1,760 T4N0-3M0-1 breast cancer patients taking into consideration ethnic features. Patients ranged from 29 - 82 years. 896 (51%) had cancer of the left breast, 815 (46.3%) of the right breast and in 49 (2.8%) patients, it was bilateral. In terms of ethnic origin, patients were divided into 2 groups: Natives (Uzbek, Tajik, Kazakh, Kyrgyz, Turkmen and others) and Non-natives (from Russia, Ukraine, Belarus, Tatar, Poland and others). 1258 were natives (71.5%). The intensive rate of breast cancer morbidity throughout the Republic was 8. Among the native women, it was 6 and among the non-native ones it was almost double that at 11. Epidemiological studies comprised: a) age, b) onset of menarche, c) late and early menopause, d) use of contraceptives, e) food intake, f) use of alcohol, g) number of pregnancies, abortions and children, h) duration of breast-feeding.

RESULTS
Menstruation started after the age of 13 years in 72% of natives and in 59% of non-natives (p < 0.05). The menopause occurred at the age of 50 in 78% of natives (and in 22% of women it has been continued), but in non-native women these parameters were 65% and 35% (p < 0.05), 21% of the native women used contraceptives, whereas in non-native women this parameter was 47%. Duration of contraceptive use was 27 months in natives and 63 months in non-natives. In natives, the average number of pregnancies was 6; 52% of women had abortions, (23% 3-4 times, 20% twice and 9% once). The average number of children was 3.6. In contrast, in non-natives the average number of pregnancies was 5, with abortions having been performed in 92% of women; (43% 3-4 times, 39% twice and 10%
once). The average number of children was 1.7. Obesity due to lack of exercise and the use of animal fats in the native population was found in 42% of women. The use of animal fats (mainly pork) and lack of exercise was 78% in the non-natives, though 70% of women in this group took part in manufacturing industries. The use of alcohol also differed: ie in natives, 35% of women had used alcohol for up to 11 years. Excessive use was noted in 8% of women under the age of 35 years. The use of alcohol was widespread (86% of women) for up to 23 years in the non-natives, with excessive use documented in 21% of women. The average period of breast-feeding in native women was 1.2 months compared with 6.3 months in the non-natives.

CONCLUSION
The risk of breast cancer development correlates directly with the above mentioned factors. Elimination of them would result in a reduction of breast cancer morbidity.

ABSTRACT 28

DEMOGRAPHIC DATA OF NON-HODGKIN LYMPHOMA; SINGLE CENTER EXPERIENCE

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MATERIALS AND METHODS
In this retrospective study, 164 patients with non-Hodgkin’s lymphoma (NHL) who had been followed in the Dokuz Eylul University Hematology Department between 1993 and 2005, were evaluated to establish their epidemiologic and clinical characteristics.

RESULTS
Out of 164 patients, 83 (50.6%) were male and 81 (49.4%) were female. The ages ranged from 18 to 95, with a mean of 57.3 years. The patients were pathologically reclassified according to the WHO classification. 4.3% of cases were unclassified lymphomas. Diffuse large B-cell lymphoma (DLBCL) was the most commonly observed histopathologic type in 56.7% of patients followed by peripheral T cell lymphoma (8.5%) and follicular lymphoma (7.9%). 82.4% were B cell lymphomas, whereas 13.3% were T/NK lymphomas (70.7% aggressive lymphomas, 29.3% indolent lymphomas). 53% of the cases were nodal lymphoma and the remaining 47% were primary extranodal lymphoma. The most commonly affected extranodal sites were stomach (26%), tonsil (13%) and parotid (7.8%). Out of all patients 25% had no extranodal disease site, therewas spleen involvement in 30.5%, bone marrow involvement in 25.6%, liver involvement in 17.1% and lung involvement in 8.5%. Bulky disease was observed in 6.7% of all cases. B symptoms were present in 30.5% of the patients. The serum lactate dehydrogenase (LDH) concentration was elevated in 43% of the patients. According to the Ann Arbor staging system, the vast majority of patients (70.7%) had advanced stage. Based on the IPI scores, patients were classified as low risk (41.5%), low-intermediate risk (19.7%), high-intermediate risk (20.4%) and high risk (18.3%).

CONCLUSION
Compared with western countries extranodal lymphomas were more common in our patients, but the incidence was similar to that in other middle east and Asian countries. Compared with western countries, our patients had some differences in the histopathologic subtypes.
ABSTRACT 48

OCULAR INVOLVEMENT IN CHILDREN WITH LEUKEMIA

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BACKGROUND
Knowledge of ocular involvement in leukemia is important because the eye is the only site where involvement of nerves and blood vessels can be directly observed and eye symptoms may be the initial mode of presentation of the systemic illness or the first manifestation of relapse after remission-inducing chemotherapy.

OBJECTIVE
To evaluate the incidence of eye involvement in children with leukaemia prior to starting treatment.

PATIENTS AND METHODS
A total sample of 102 patients (aged between 1 and 15 years) with leukemia was studied. The sample was taken from the Maternal and Child hospital. All the children diagnosed with leukemia and admitted during the period from March 2002 through November 2003 were pooled and included in the study. Eye complications were checked through a complete ophthalmic examination.

RESULTS
Ocular lesions were seen in 50 (49%) of patients with leukemia; 28(27.4%) males and 22(21.5%) females. Eye changes were seen more in patients with acute lymphoblastic leukemia 43(42.1%). Retinal changes were the most common pathology.

CONCLUSION
Retinal lesions are the most common eye changes in leukemia especially in the acute lymphoblastic type.

ABSTRACT 37

N-ACETYL TRANSFERASE 2 (NAT2) POLYMORPHISM AS A RISK MODIFIER OF SUSCEPTIBILITY TO PEDIATRIC ACUTE LYMPHOBlastic LEUKEMIA

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BACKGROUND
N-acetyltransferases are involved in the biotransformation of aromatic amines present in tobacco smoke, the environment and diet. Their rapid and slow acetylator alleles have been known to modify the risk for a variety of solid tumors. Studies on ALL are very few. Aim of the work: To evaluate in a case-control study whether the common polymorphisms of NAT2 (G191A, C282T, T341C, C481T, G590A, A803G and G857A) may play a role in altering susceptibility to pediatric ALL as individual polymorphisms or in combination.
PATIENTS AND METHODS
DNA of 92 ALL patients (age ≤ 16 years) and 312 healthy control subjects was analyzed for the NAT2 polymorphisms using PCR-RFLP method.

RESULTS
The wild type NAT2*4 was encountered in 8.6% of patients versus 11.8% of controls (P=0.23). The rapid acetylators NAT2*12 (A803G), AG, GG and AG/GG were overrepresented in controls: 50.2% vs. 28.2%, 23% vs. 13% and 73.2% vs. 41.2% respectively (P=0.0001; OR: 0.22, 0.19 & 0.21; 95% CI: 0.13-0.38, 0.1-0.39 & 0.13-0.35 respectively). NAT2 T341C and C481T were each of comparable frequency in patients and controls. Their combination NAT2*5A, a slow acetylator, both TCTT and CCCT were overrepresented in patients: 4.3% vs. 0% and 7.6% vs. 0.89% respectively (P= < 0.001; OR: 15.8 & 179; 95% CI: 3.3-67.4 & 3.1-102.7 respectively). The combination of the 3 polymorphisms: NAT2*5B, different combinations of hetero and homozygous were collectively overrepresented in controls: 56.5% vs. 25% (P= < 0.001; OR: 0.12; 95% CI: 0.23-0.45). Apparently the A803G ameliorated the combined effect of T341C and C481T. A similar effect was obtained with NAT2*5C (T341A, A803G): 56.5% vs. 29.3% (P= < 0.0001, OR: 0.11; 95% CI: 0.31-0.56). For the slow acetylator NAT2 G857A, both GA and GA/AA were overrepresented in patients: 18.4% vs. 7.7% and 19.5% vs. 8.2% respectively (P=0.009 & 0.01; OR: 2.7; 95% CI: 1.3-5.7 & 1.32-5.62 respectively). NAT2*13 (C282T) and NAT2 G590A, individually or in combination as well as NAT2*14A (G191A), showed comparable frequency in patients and controls. However, NAT2 C282A in combination with NAT2 G857A (NAT2*7B) showed a synergistic effect: 15.2% in patients vs. 6.7% in controls (p= < 0.0001; OR: 3.51; 95% CI: 1.26-4.5).

CONCLUSION
In general, rapid acetylator genotypes are overrepresented in controls while the slow acetylator is overrepresented in patients. The risk modifying action is executed by interaction of different polymorphisms rather than by any single one. Risk modification studies should involve the different alleles within genes as well as various genes of the same and of different pathways.

ABSTRACT 5
DOMICILIARY PALLIATIVE CARE SERVICE - UNIQUE OPPORTUNITY OUTPOST FOR CREATING CANCER AWARENESS IN THE COMMUNITY AND AN ANTI-TOBACCO CAMPAIGN - A PRELIMINARY STUDY

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BACKGROUND
Tobacco related cancers constitute the majority among our home care patients. This study seeks to integrate a cancer control strategy and an anti-tobacco campaign through the medium of Domiciliary Palliative Care and understand its efficacy. The Home Care Program is identified as an ‘Opportunity Window’ for this. Albeit unstructured, being a preliminary study, it can be used to measure the ‘reach quotient’ of the cancer awareness message. As a ‘quit-line’ it seeks to achieve tobacco cessation in the community.

MATERIALS AND METHODS
Our Palliative Care to Homes (nicknamed PC2H) program), which is NGO supported takes Palliative Care to the homes of those patients who are too poor or sick to travel and conducts peripheral rural clinics on designated days. Visits by the Home Care Team create a ‘Signature Effect’ in the neighborhood. Cancer Survivors accompany the team to reinforce the message. The visits are utilized to teach on warning signs of cancer and deleterious effects of tobacco. Doubts, which people may harbor about causation, treatment and prognosis of cancers are cleared. Handouts are distributed when available. The cancer victim and the family that expresses solidarity with him are the best campaigners against tobacco and are encouraged to do so. The unique cluster dwelling of rural households and extended families with their opinion leaders who assemble where their team arrives form the right nidus to disseminate the cancer awareness message.
RESULTS
45% of cancers in males and 15% in females are tobacco-related. Over 1000 house visits are made yearly (including re-visits) and around 1500 patients are seen in rural clinics. Five to eight times this number can be reached with the message of cancer awareness and the deleterious effects of tobacco. The impact of an earlier visit is assessed on subsequent visits. On an average, five patients reported bi-monthly with a ‘cancer scare’ attributable to the home care program. In a particular village, 12 contiguous households became tobacco free as a result of a visit to the house of a patient who had advanced oral cancer. A ‘ripple effect’ helps in sustaining and spreading the anti-tobacco and cancer awareness message.

CONCLUSION
Taking Palliative Care to the doorstep of the cancer patient in resource scarce countries through NGOs is a laudable step. Those too poor or sick to travel and their families benefit from this gesture. Creating cancer awareness in the community, achieving cancer control, identifying patients with warning signs of cancer, and achieving tobacco cessation through it is a bonus. Where legislation and government measures fail the home care team, cancer victim and family succeed. Being patient focused and community centered this concept addresses many facets of India's National Cancer Control Program (NCCP) and represents a model worthy to be emulated in developing countries.

ABSTRACT 29

A CRITICAL ANALYSIS OF THE NATIONAL CANCER CONTROL PROGRAMME OF INDIA

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India was one of the first countries to formulate and implement a National Cancer Control Program in 1984. The right goals and priorities were set out for this program, as summarised below.

GOALS OF CANCER CONTROL IN INDIA
i. Devising methods to avoid 50% of cancers in men and 20% in women which are tobacco related, by creating awareness about the harmful effects through anti-tobacco action programs involving human resource development of student volunteers, inter-sectoral personnel, medical personnel and the lay public.
ii. Achieve Early Clinical Diagnosis of oral, cervical and breast cancer through propagation of warning signals, screening wherever feasible and by providing motivation to undergo cancer-related physical examination and extending laboratory support through to the district level, early cancer detection programs and early detection centres;
iii. Widen the scope of therapy by introducing: minimal therapy for early cancer, comprehensive, multi-disciplinary, protocol-based therapy, hand in hand with early detection, in regional cancer centres and Oncology wings of medical colleges, and palliative care at the district level.
iv. Widen the coverage and reach of palliative care by introducing it at district level, initiating human resource development and Morphine supply, inpatient care and a home care service, with the support of non-governmental organizations.

As part of this program, the Government of India set up several activities for public education, early detection and therapy, between 1988 and 2005. 25 regional cancer centres were set up to extend comprehensive treatment to cancer patients. Nearly 200 teletherapy units were established. 100 brachytherapy machines were procured. All of the accessories required for delivery of modern radiotherapy were provided to medical colleges and regional cancer centres. Licenses were freely issued to private establishments to set up cancer treatment facilities complementary to governmental efforts. 55 district cancer control programs were established in selected districts all over the country (1/10th of the total 600 districts in the country). A number of voluntary organizations provided funding for prevention and early detection. Laws relating to availability of morphine for cancer patients were relaxed and palliative care services were extended to the periphery with the help of non-governmental organizations.
India set up the National Cancer Registry Program at the initiative of the International Council for Medical Research in 1980. Comprehensive cancer data was provided from this registry periodically. This data is now being used to monitor and evaluate the success of various programs implemented by the Government of India and state governments.

It is unfortunate that programs implemented by the Government of India, state governments and non-governmental organizations with huge expenditure have not had the desired impact on cure rates of common cancer in any region of the country. The cure rates remain as low as those in some of the African countries. There has been no change in stage at presentation in spite of the District Cancer Control program and non-governmental interventions. The use of tobacco continues to increase and related cancers are again on the rise. Hence, it is imperative that a review of the whole program be done at the earliest opportunity and remedial measures taken. For this, a critical analysis of the whole program will have to be done.

**ABSTRACT 8**

**MANAGEMENT OF PEDIATRIC HODGKIN DISEASE IN MOROCCO: PRELIMINARY RESULTS OF THE MDH – MA 04 PROTOCOL**

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**BACKGROUND**

The cure rate in children with Hodgkin Lymphoma (HL) is actually about 90% and the priority now is to reduce the late effects of treatment. In a previous study in Morocco, the treatment abandonment rate (40-50%) related to social and economic conditions and unsatisfactory results were the main problems in managing children with HL. In February 2004, a new national treatment protocol was started. The main objectives are to increase the EFS to > 80% and decrease the treatment abandonment rate to less than 10%. We present the 2 year preliminary results.

**PATIENTS AND METHODS**

We included patients less than 20 years old with histologically proven classical HL. They were divided into 2 treatment groups. The favourable group included stage I and IIA, no bulky disease and no contiguous lesion and received 4 cycles of ‘VAMP’. All other patients were considered as unfavourable and received 2 ‘OPPA’ and 4 ‘COPP’. Radiotherapy was given after completion of chemotherapy: 20 to 25 gy to good responders (more than 70% response). Patients with a less than 70% response are therefore excluded.

**RESULTS**

Seventy nine patients from Casablanca and Rabat Pediatric Oncology Units were included in the study. Median age at diagnosis was 12 y (range 4 – 19) and the male to female ratio was 1.47. About 86% of patients had no medical insurance. The histologic subtype was nodular sclerosis in 71%. According to Ann Arbor Staging, we had one stage I, 35 stage II, 24 stage III and 18 were stage IV. According to protocol groups, 82% were unfavourable. 78 were treated and among them, 51 completed treatment. 49 are in complete remission. We had 9 events, one resistant, one relapse and seven treatment abandonment (9%). The EFS by Kaplan Meier method was 90.7% +/- 0.07%.

**CONCLUSION**

After 2 years, we think that we can reach our objectives and that we can set-up national prospective therapeutic studies for others disease in Morocco.
ABSTRACT 9

CHILDHOOD HODGKIN LYMPHOMA IN CASABLANCA - 24 YEARS’ EXPERIENCE IN A SINGLE CENTRE

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INTRODUCTION
More than 90% of children with Hodgkin Lymphoma (HL) can be cured with current treatment modalities. However, in most developing countries, this goal has not yet been reached. We report, in a retrospective study, a 24 year experience in the management of HL in children.

PATIENTS AND METHODS
Between 1978 and 2001, 203 children less than 17 years old with histologically proven HL were treated in our department. The mean age was 10.3 years and 46% were 10 years old and less. The Male: Female ratio was 2.9. The mean duration of symptoms before diagnosis was 10.4 months. The histologic types 2 and 3 (according to the Lukes-Rye) classification were predominant, representing 40% and 37% respectively. According to the Ann-Arbor classification, advanced stages III and IV represented 55.5%. The treatment modalities varied during the period of 24 years but were based on combined chemotherapy and radiation therapy. With a median follow-up of 10 years, 134 are evaluable. 34% were lost to follow up during treatment or early after the end of treatment. The CR rate was 80%. 22 patients relapsed and a second remission could be achieved in 9 of them. The 10-year overall and relapse-free survival were 64% and 58% respectively.

DISCUSSION
The clinical and pathological data of our patients are similar to those reported in other series from developing countries, showing a low age at diagnosis of HL with a median age about 10. The mixed cellularity subtype is more frequent than what is reported in western series, where the nodular sclerosis subtype represents about 70%. This aspect could be due to EBV infection at an early-age in developing countries. Advanced stages III and IV represent more than 55% in our report. The long delay before diagnosis is due to difficulties in access to care in the 1980’s, which could also be the main reason for the high rate of abandonment and loss to follow-up. Thus, our therapeutic results are below what is reported from some developing countries. In 2004, we set up a national prospective study, focusing on reducing the abandonment rate, improving therapeutic results and giving better facilities to the patients and their parents.

CONCLUSION
In this large series of children with HL, our data are similar to those observed in developing countries but we have to improve our therapeutic results and try to reduce the abandonment rate.

ABSTRACT 6

UNDER-REPRESENTATION OF CANCER RESEARCH FROM DEVELOPING COUNTRIES IN THE MEDICAL LITERATURE AND ITS IMPLICATIONS FOR CANCER CONTROL

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BACKGROUND
Developing countries bear about half of the global burden of cancer and it is predicted that this proportion will increase to 70 percent by 2015. The aim of our research is to compare and contrast the contribution of scientists working in industrialized and developing countries to leading Oncology journals, to determine whether Oncology research is biased towards cancers that predominantly affect people from wealthy nations and the implications.

MATERIALS AND METHODS
This study compared the volume of published literature on prevention, diagnosis, treatment and palliative care of cancer from developed and developing countries between January and December 2003 in the five highest-impact scoring Oncology journals, as published in the major online biomedical databases.

RESULTS
Less than 3 per cent of the research originated from the least developed nations, compared with over 97 % from the industrialized nations. Therefore, an inverse relationship exists between the global burden of cancer and contribution to the highest impact factor scoring Oncology journals. We noted that the proportion of articles published from low income countries had risen to 2.2% in 2003 as compared with 1.1% published in 1993, but this increase is not statistically significant ($X^2 = 1.78, P = 0.18$).

CONCLUSION
Cancer research, in our opinion, has been neglected in the developing countries. The low input from researchers in developing countries to the Oncology literature could be attributed to their low research capacity, and this has serious implications for managing the explosive new numbers of cancer cases that will be concentrated in developing countries in the near future. It is hoped that putting the inequities in cancer research into the spotlight will stimulate increased north-south and south-south partnerships in the global fight against cancer.

ABSTRACT 7

DYSPLASIA AND HPV INFECTION IN A PREVIOUSLY UNSCREENED POPULATION OF NIGERIAN WOMEN

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BACKGROUND
Nigeria has one of the highest rates of cervical cancer in the world but little information is available on dysplasia and the prevalence of HPV in the country. The current study was undertaken to describe the precursors of cervical cancer and expression of HPV infection in Nigerian women by evaluating the related cytomorphological changes in cervical smears. As our study progresses, we will use material collected prospectively for detection of HPV DNA using Digene Hybrid Capture IIITM test, to determine the distribution of its various subtypes in women from this region of Nigeria.

MATERIALS AND METHODS
Using a standardized protocol, cervical specimens were obtained from 159 sexually active women aged 15 years and older in Sokoto, Nigeria. None of the patients had a history of cervical dysplasia or cancer. HPV infection was determined using cytomorphologic criteria as follows: mild nuclear changes, disorders of keratinization, condylomatous parabasal cells, abortive koilocytes and “measles cells”, as well as degenerative changes.

RESULTS
The mean age and parity of the women examined were 27.5 and 2.8 respectively. Forty-four samples (27.8%) showed evidence of inflammation. Thirty patients (15.7%) had cytological evidence of HPV infection, in
addition to which 27 smears showed cervical abnormalities. These were ASCUS/LGSIL 16.4% (26/159) and HGSIL 0.4% (1/159). Histology was performed on 18 punch biopsy specimens that agreed with the cytological diagnoses in 88.9 percent.

CONCLUSION
This study has shown that the rate of abnormal Pap smears in unscreened Nigerian women is high. The incidence of HPV is greater in our study population than was previously reported in other African cities. Implementation of low-cost cervical cancer screening programmes is advocated to diminish the transmission of HPV and decrease the prevalence of cervical cancer in Nigerians.

ABSTRACT 42
CANCER PATTERN IN EASTERN INDIA: DATA FROM A HOSPITAL-BASED CANCER REGISTRY

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BACKGROUND
The first Population Based Cancer Registry (PBCR) in India was organized in Mumbai in 1963. Subsequently, under the National Cancer Registry Program (NCRP) of the Indian Council of Medical Research, a few more registries were started in different cities like Bangalore, Chennai and New Delhi. The 1st PBCR was organized in Kolkata at the Chittaranjan National Cancer Institute in 1997. We started our hospital-based cancer registry, Kolkata, in 2002. The PBCR from different cities have shown that the distributions of different cancers are different because of ethnic and dietary differences. The aim of our study was to show the prevailing cancer pattern in the eastern part of India.

MATERIALS AND METHODS
We analyzed all the cancer patients who attended the Out-patient and In-patient departments of Netaji Subhash Chandra Bose Cancer Research Institute during the period from August 2004 to July 2006.

RESULTS
A total of 5531 cases were registered. The age distribution was 1 month to 90 years, with a mean age of 43.6 years. There was a slight predominance of male patients (54.3%). The most frequent malignancies in males were lung carcinoma (14.3%), followed by cancer of the oral cavity (11%) and colon carcinoma (6.2%). The most frequent reported malignancies in female were breast (30.3%), followed by uterine cervix (20.9%), gallbladder (12%) and ovary (9.8%). In the pediatric age group the most frequent malignancies were ALL (32.6%), followed by Ewing's Sarcoma (22%), Rhabdomyosarcoma (16%) and Brain tumors (14.2%).

CONCLUSION
The cancer pattern in eastern India is somewhat different from that in other parts of India and different from the World cancer registry results, because of lifestyle and dietary habits in this part of the country.
ABSTRACT 26

ARSENIC TRIOXIDE FOR TREATMENT OF MYELODYSPLASTIC SYNDROME: AN EXPERIENCE FROM INDIA

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BACKGROUND
Myelodysplastic Syndrome (MDS) is a heterogeneous group of clonal diseases of the haematopoietic stem cells. The hallmark of the disease is ineffective haematopoiesis characterized by dysplasia with incomplete maturation and progressive increase in the percentage of myeloblasts. No standard treatment is currently available for MDS. The early clinical experience has confirmed the activity of arsenic trioxide in MDS. The drug is able to induce differentiation and apoptosis and to inhibit cell proliferation or angiogenesis. It has the potential to be active in tumour models of MDS. The preliminary results of ongoing studies conducted in patients with MDS suggests that arsenic trioxide produces haematological improvement including durable transfusion independence in 30% of patients. The aim of our study was to see the response of MDS to arsenic trioxide and to see the toxicity profile of arsenic trioxide in the Asian Indian population.

MATERIALS AND METHODS
During the period from July 2005 to July 2006, we selected 15 consecutive patients with MDS in Refractory Anaemia, Refractory anaemia with ringed sideroblasts, Refractory anaemia with blast excess, Refractory anaemia with blast excess in transformation and chronic myelo-monocytic leukemia phases. All patients had a performance status greater than 60%, some had karyotypic abnormalities & some were in the cytopenic phase. The median age of the patients was 66 years (range 42 to 72 years). All patients were treated with arsenic trioxide 10mg (Alkem/India) daily as a 2 hour infusion every 28 days. 3 courses were given at 15 day intervals. All patients were evaluated after 3 courses of arsenic trioxide. Response assessments comprised haematological, cytogenetic & quality of life assessment.

RESULTS
9 patients showed a major haematological response, 6 had a minor response and 3 patients had a major cytogenetic response. 3 patients had disease progression, whereas 3 had stable disease. The only mild adverse effects were seen in the form of nausea, vomiting, diarrhea, abdominal pain & dermatitis in 33% of patients. Only one patient had QT prolongation in ECG.

CONCLUSION
We concluded that arsenic trioxide is very useful drug in myelodysplastic syndrome. It is also well tolerated in the Asian Indian Population.

ABSTRACT 23

PSYCHOLOGICAL ASSESSMENT OF CANCER PATIENTS – A STUDY FROM EASTERN INDIA

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BACKGROUND
Various studies have revealed that a high prevalence of depression is common in patients with cancer. Investigators have found a relatively high prevalence of depression in patients with certain types of cancer and some reports have suggested an association between depression and increased morbidity in cancer patients. Adolescents who have been treated for childhood cancer not only have substantial physical, cognitive, emotional and interpersonal problems but also have the added burden of integrating a life threatening disease into their experiences. The aim of our study was to determine the prevalence of psychological problems in cancer patients and the effect of psychotherapy.

MATERIALS AND METHODS
During the period from November 2003 to July 2006, we analyzed 1200 cancer patients including survivors of childhood cancer in their adolescent period with their families in the Psycho-Oncology department of Netaji Subhash Chandra Bose Cancer Research Institute. The age range of the patients was from 16-72 years (median age 43). We examined their family functioning, mental health, self-esteem, and social competence. A detailed history was taken and a Mental Status Examination was performed. Major Depression according to DSM IV criteria was evaluated by the help of the Beck Depression Inventory and Hamilton Rating Scale for Depression. There was a female preponderance in the study.

RESULTS
Mild depression was seen in 595 patients (49.58%), mainly in younger females, only 7% (96 patients) had a moderate anxiety neurosis, 104 (8.66%) of the teenagers thought that their families were less attentive than was the case with their counterparts. Those adolescents were also maladjusted & violent. One hundred forty four patients (12%) were reluctant to command. 256 patients (21.33%) had normal psychological function. Only 55 patients required medication, others responded well to psychotherapy.

CONCLUSION
Almost sixty percent of cancer patients have mild psychological problems during treatment and the majority respond to psychotherapy. Hence we strongly recommend psychotherapy at frequent intervals during and after treatment.

ABSTRACT 55
DETECTION OF AF4-MLL GENE FUSION INVOLVING T(4;11) CHROMOSOMAL TRANSLOCATION IN ALL PATIENTS

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BACKGROUND
Cytogenetic study plays an integral role in the diagnosis of Acute lymphoblastic leukemia. Reciprocal chromosomal translocations are recurrent features of Acute lymphoblastic leukemia. The genes located at breakpoints of chromosomal translocations lead to the identification of new genes using fluorescence in-situ hybridization (FISH) which strongly indicate that they represent biologically meaningful entities.

METHODOLOGY
Bone-marrow aspirate and peripheral blood samples from 30 ALL patients were subjected to short- term cultures to have enough dividing cells and were arrested at metaphase. The metaphase chromosomal spreads were subjected to karyotype analysis following the International System for Human Cytogenetic Nomenclature (ISCN).The metaphase and interphase cells were subjected to fluorescence in-situ hybridization (FISH). The dual colour (spectrum green and spectrum orange) AF4-MLL gene probe and patients’ metaphase and interphase DNA was denatured, hybridized and counter stained with DAPI I and DAPI II. The signals were detected using Zeiss FISH imaging systems. Partial study was also carried out at the American college of Human Genetics, Nashville, Tennesse, USA.
RESULTS
Cytogenetic study and FISH findings revealed chromosomal translocation t(4;11)(q21;q23) in ALL which involve AF4-MLL gene fusion. Among 30 patients, 4(13%) revealed an AF4-MLL gene fusion.

CONCLUSION
Rearrangement of t(4;11)(q21;q23) and AF4-MLL gene fusion is rare in Indian ALL patients and correlates with poor outcome.

ABSTRACT 76
THYROID CANCER IN LEBANESE CHILDREN AND ADOLESCENTS: A 15-YEAR EXPERIENCE AT A SINGLE INSTITUTION

BACKGROUND
Thyroid carcinomas are rare in childhood and adolescence. Thyroid cancer accounts for 1.1% of newly diagnosed patients with cancer below nineteen years of age. Management of this entity remains controversial with no prospective trials. The only significant data in the literature is in the form of retrospective analyses.

PATIENTS AND METHODS
The medical records of all patients with thyroid cancer younger than 20 years who presented to the American University of Beirut Medical Center between January 1991 and January 2006 were reviewed. Follow up was undertaken by contacting patients and their treating physicians.

RESULTS
Fourteen patients with thyroid carcinoma were identified. All had primary thyroid carcinoma and no previous exposure to ionizing radiation. Thirteen patients had papillary thyroid carcinoma (PTC) and one patient with MEN IIB had medullary thyroid carcinoma. The mean age of patients at diagnosis was 14.5 years (range, 5.6 to 19.7 years). There were 8 females, (F/M ratio, 1.6). All presented with a cervical mass. Ten patients underwent total thyroidectomy and three subtotal thyroidectomy. Eight patients (61.5%) had regional lymph node metastases, only one (7.6%) had lung metastases. One patient developed recurrent laryngeal nerve injury with vocal cord paralysis secondary to surgery. All thirteen patients with papillary carcinoma received radioactive 131I ablation post surgical excision and were then started on TSH suppressive L-Thyroxin supplements. Five (38.5%) had recurrences and needed multiple surgery and / or 131I ablation. Four of the five patients who recurred did not have initial lymph node involvement. At a median of 8.3 years of follow up (range 0.2 – 14.6 years), all patients are alive and continue to be free of disease.

CONCLUSION
Pediatric thyroid cancer in Lebanon is a rare tumor which presents mainly as a primary malignancy. The main clinical presentation is as a cervical mass with locoregional lymph node metastasis. There was a higher incidence of thyroid cancer in males than expected from the literature, and distant metastases at diagnosis were less frequent than expected. Our patients were mostly managed by total thyroidectomy with lymph node dissection when indicated, radioactive 131I ablation, and hormone suppressive therapy. Having initial lymph node involvement did not correlate with recurrence. Despite recurrences, the prognosis is excellent.
**ABSTRACT 66**

**p53 AND p16 PROFILE IN T-ALL**

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**OBJECTIVES**

Acute Lymphoblastic Leukemia is the most common pediatric malignancy seen at the Institute. T-ALL constitutes 40-50% of the ALL and has a poor prognosis. Alterations in tumor suppressor genes p53 and p16 are frequent in cancers, particularly hematological malignancies. The objective of this study is to determine the p53/p16 mutation/deletion status at diagnosis /relapse, correlate it with the clinical status and evaluate it as a prognostic marker.

**MATERIALS AND METHODS**

Genomic DNA isolated from lymphocyte from peripheral blood/bone marrow samples of 51 patients (40 pediatric and 11 adults) at diagnosis and 3 pediatric patients at relapse was PCR amplified for the p53 gene, Exons 5-8 and p16 Exon 2. SSCP was done and abnormally migrating bands sequenced to detect the mutants. The minimum follow-up period was 5 years.

**RESULTS**

Mutation in the p53 gene was detected in 5/40 (12.5%) pediatric patients. Four patients (10%) had the mutation at diagnosis (3 in Exon 5 and one in Exon 7) and one had a mutation in Exon 5 in a relapse sample. The mutants were sequenced. Three patients with mutation at diagnosis relapsed and died and only one patient (p53 mutant Exon 5) continues in remission.

Homozygous deletion of the p16 gene was detected in 18/51(35%) patients. Deletion of the p16 gene was seen in 12 /40 (30%) pediatric cases. Ten of them relapsed and died and 2 continue in remission. Of the 28 p16 positive pediatric patients, 15 are in clinical remission and 13 have relapsed. In the adult T-ALL patients, homozygous deletion of p16 was detected in 6/11(55%) cases of which 4 have relapsed and 2 are in clinical remission. Of the 5 p16 positive cases, 2 have died and 3 are in clinical remission.

**CONCLUSION**

Mutations in the p53 gene and homozygous deletion of the p16 gene are poor prognostic markers in T-ALL. More samples are being studied to validate the above results.

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**ABSTRACT 35**

**RESULTS OF TREATMENT OF LYMPHOBLASTIC LYMPHOMA WITH MCP 842**

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**OBJECTIVE**

To study the outcome of treatment of marrow negative Lymphoblastic lymphoma (LL) with MCP 842.
METHODS
Twenty two patients with Lymphoblastic lymphoma LL whose bone marrow was not infiltrated were treated by the authors during the period 1996-2001 with MCP 842. The clinical and treatment details were collected and analysed.

RESULTS
There were 16 males and 6 females. The median age was 22 years (range 15-32). The commonst presentations were lymphadenopathy, dyspnoea and SVC obstruction. B symptoms were present in 8 cases. The mean duration of symptoms was 8 weeks. CXR showed a massive mediastinal mass in 9. Eight patients recurred. Fourteen patients are alive. Survival ranged from 6 months – 99 months with a median of 36 months.

CONCLUSION
MCP 842 is an effective treatment protocol for high grade NHL.

ABSTRACT 62
A + M

SERUM ANTI-p53 ANTIBODIES IN NORTH INDIAN PATIENTS WITH GALLBLADDER CANCER

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**INTRODUCTION**
Gallbladder cancer (GBC), the commonest malignancy of the biliary tract worldwide, is common in northern India. Its poor prognosis is attributed to delayed presentation in the absence of specific clinical findings at early stages. The aim of the present study was to ascertain whether serum anti-p53 antibodies can be used to distinguish GBC from other biliary disorders and to assess the prognosis of patients with GBC.

**METHODS**
Estimation of serum anti-p53 antibodies in 50 patients with GBC and 30 patients with cholelithiasis was done by a highly specific enzyme linked immunosorbent assay (ELISA) kit (Pharma Cell, France). The clinico-pathological characteristics of these patients were correlated with the presence of anti-p53 antibodies.

**RESULTS**
Serum anti-p53 antibodies were present in 34% (17 of 50) of patients with GBC and in 3.3% (1 of 30) patients with cholelithiasis. There was a significant difference in anti-p53 antibody positivity in patients with GBC and controls (p<0.018). Among those who were positive for anti-p53 antibodies, the depth of invasion was greater, and liver metastases were present, as compared with those who were negative for anti-p53 antibodies. Regarding other clinical factors, there were no differences between those who were positive or negative for anti-p53 antibodies.

**CONCLUSION**
Measurement of serum anti-p53 antibodies has a diagnostic potential for GBC and can differentiate GBC from cholelithiasis in light of other clinical details.
**ABSTRACT 4**

**HPV ISOLATION AND TYPING OF CERVICAL CANCERS - RESULTS FROM CAMEROON**

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**BACKGROUND**

Cancer of the cervix is still a common cancer, as is breast cancer, representing 11% of the total cancer cases in Cameroon (Central Africa) and this picture is now changing with the pandemic of AIDS. Most of these are squamous cell carcinomas. In developed countries HPV type 16 and 18 account for approximately 70% of cases of cervical cancer, non-invasive cervical cancer, CIN3, vaginal and vulvar high-grade intraepithelial lesions and account for 50% of CIN2 lesions. HPV 6 and 11 cause approximately 90% of cases of genital warts and in developed countries these four types of HPV also cause 35 to 50% of low-grade cervical, vaginal and vulvar lesions (CINI, VINI and VAINI).

**OBJECTIVE**

This preliminary study aimed to isolate and type HPV in the few HPV-related lesions in Cameroon.

**MATERIAL AND METHODS**

50 cases of cervical lesions and 7 cases of penile cancers were included in the study. We isolated and typed HPV on paraffin-embedded specimens using polymerase chain reaction.

**RESULTS**

We found that the HPV types in the 57 cases of these HPV-related lesions were different from the types usually found in developed countries.

**CONCLUSION**

Will the quadrivalent HPV recombinant vaccine have any effect on Cameroonian women?

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**ABSTRACT 83**

**PSA DISTRIBUTION IN ASYMPTOMATIC ADULT MEN IN IBADAN, SOUTHWESTERN NIGERIA**

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**BACKGROUND**

Serum prostate specific antigen (PSA) is the most commonly used marker for early detection of prostate cancer and for monitoring its treatment. However, there are no reference levels for Nigerian men. As such, the standard PSA values determined by studies conducted in the USA and Europe (mainly among white men) are currently being used as reference values in Nigeria. The practice has its obvious pitfalls as differences in PSA levels among age-matched African-American and Caucasian males have been reported by several researchers. This pilot study was done to determine the PSA distribution in asymptomatic adult men in Southwestern Nigeria as a prelude to a prostate cancer screening project.
MATERIALS AND METHODS
As part of a larger IRB-approved health awareness study, 10cc of blood was drawn from consenting male participants in a community-based cross-sectional survey in Ibadan, Southwestern Nigeria. Participants with known mental or urological disease, or previous operations on the urinary tract were excluded. The specimens were spun and sera separated and stored at minus 70 degrees until analyzed using a standardised Elisa Test Kit.

RESULTS
Three hundred and seventeen men consented to submit blood samples of which 302 (95%) had evaluable data. The mean and median ages were 51 and 55 years respectively (age range 20-111 years), and 214 of the men (71%) were >40 years. Two hundred and eighty-nine men (96%) had tPSA <4ng/dl, and the mean tPSA for the cohort was <1.0 ± 5.5 ng/dl (range <1-15ng/dl). The mean tPSA for men <40 years was <1ng/dl ± 0.4ng/dl, whilst that for men >40 years was 1.0ng/dl ± 5.5 ng/dl (p = >0.5).

CONCLUSION
Serum tPSA levels are <4ng/dl in the majority of adult men in Southwestern Nigeria. This finding suggests that in contrast to African-American men, the level of this marker in men in this native African community without prostate cancer are comparable to that detected in (white) men in Europe and the USA. As such, similar to western countries, studies directed at screening for prostate cancer in Southwestern Nigeria may use >4ng/dl as the cut-off point of normal.

ABSTRACT 58
RETINOBLASTOMA IN A TERTIARY INSTITUTION IN NIGERIA: THE MANAGEMENT OUTCOMES AND CHALLENGES

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BACKGROUND
We present the results of observation in our patients, with the aim of evaluating the risk factors for prognosis.

MATERIALS AND METHODS
All histologically confirmed cases of retinoblastoma seen between 1992 and August 2006 were reviewed. Clinical records, clinical photographs and histopathological reports were reviewed. Survival analysis was done with life table plots.

RESULTS
Thirty (37) patients were confirmed, with a mean age ± SD of 3±1.4 years at presentation. Proptosis was the commonest mode of presentation in all of the patients except in 2 with leucokoria. One of the patients with leucokoria had bilateral retinoblastoma but discharged against medical advice. Leucokoria was a neglected feature though present in all of our patients prior to presentation. All the patients were from a low socioeconomic background, except one from a middle class family who presented early with leucokoria. Advanced retinoblastoma with optic nerve and orbital involvement was confirmed in all the patients. Central nervous metastasis was found in 9. Twelve patients commenced combination chemotherapy while 3 commenced radiotherapy (but only one completed radiotherapy). Rapid orbital recurrence was observed in the majority (29) postoperatively. Two patients had intraorbital 5-fluorouracil and preoperative chemotherapy. The two patients surviving 1 year after diagnosis are the ones who had preoperative chemotherapy and intraorbital 5-fluorouracil. Late presentation, poverty, relative unavailability and limited choice of cytotoxic agents are poor prognostic factors observed.

CONCLUSION
Proptosis was the commonest mode of presentation and it correlates well with metastasis and poor prognosis. Cellular differentiation does not influence prognosis. Combination therapy of chemotherapy and radiotherapy
A diagnosis of malignant lymphoma is increasingly being made in several developing countries making it more imperative for us to analyse the variables that determine survival in our population. We therefore set out to examine the demographic distribution of our patient population and the impact of these factors on morbidity and mortality.

**MATERIALS AND METHODS**

We examined retrospectively the outcome of 44 consecutive patients (30 males, 14 females) with Hodgkin’s and Non-Hodgkin’s lymphoma (HL, NHL) who were seen at our hospital between 04/1999 and 02/2006.

**RESULTS**

The median age was 33 years (range, 4-73). Of the 14 (32%) patients with HL; four (29%), five (36%) and four (29%) respectively had lymphocyte predominant, mixed cellularity and nodular sclerosis while seven (23%) and 24 (77%) respectively of the 30 (68%) with NHL had low-grade and high-grade histology. At presentation, 31 of 33 (94%) patients had clinically advanced (stage ≥ III) disease. Two of the 25 patients screened for HIV antibodies were positive. All patients were scheduled to receive chemotherapy. COPP (cyclophosphamide, vincristine, procarbazine and prednisolone; 2-6 cycles) was administered to 11 patients with HL while one had ABVD (doxorubicin, bleomycin, vinblastine and dacarbazine). Most of those with NHL had 1-8 cycles of either CVP (cyclophosphamide, vincristine and prednisolone; n = 8) or CHOP (cyclophosphamide, doxorubicin, vincristine and prednisolone; n = 18). Three paediatric patients with aggressive NHL had either COM (cyclophosphamide, vincristine and methotrexate, plus intrathecal therapy; n = 2) or COAP (cyclophosphamide, vincristine, cytosine arabinoside and methotrexate). Overall, 24 (59%) patients had between one and five cycles while 17 (41%) had six or more cycles of chemotherapy. As of February 2006, 33 patients (79%) remain alive after a median follow-up of 4.5 months (range, 2 days - 42.5 months) post-therapy; with 9 having died. Overall survival (OS) at 3 years after treatment was 66%. Kaplan-Meier univariate analysis showed a survival advantage of HL over NHL, female over male gender and ≥ 6 over < 6 chemotherapy cycles.

**CONCLUSION**

Our data suggests that despite high default rates, up to 79% short-term survival can be achieved in patients with clinically advanced malignant lymphoma in developing countries. Results are likely to improve with earlier presentation, lower default rates and improvements in chemotherapy support services.
ABSTRACT 46

FOLLOW-UP OF 20 PATIENTS WITH GASTRO-INTESTINAL (GI) TRACT MALIGNANCY TRYING AN ALTERNATIVE HERBAL THERAPY ‘HUMA’

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BACKGROUND AND AIM
Cancer of the GI tract remains a major challenge to surgical, medical and radiation oncologists. Due to complex socioeconomics and lack of cancer awareness many Indian patients with GI tract cancer report to hospitals with incurable advanced disease. For the majority of these patients palliative treatment is the only option. We followed 20 patients with GI tract malignancies trying an alternative poly herbal cancer therapy called HUMA.

PATIENTS AND METHODS
The breakdown of patients according to the primary organ affected was as follows: 2 stomach, 5 gallbladder (CaGB), 3 pancreas, 3 liver, and 7 had colorectal cancer respectively. In these cancer patients conventional therapy could not be initiated because of stage IV disease. The patients who received HUMA also received conventional supportive care but without any radio or chemotherapy.

RESULTS
Complete regression of disease was observed in 2 patients with colorectal and 1 with pancreatic cancer. Improvement of quality of life along with survival benefit was observed in 7 (35%) patients. Two patients with colorectal cancer have so far completed 5 years of survival. Two patients with CaGB survived for over 30 months. However, HUMA was not found to be very effective in patients with stomach and liver cancers.

CONCLUSION
This anecdotal report suggests that the herbal therapy might have contributed to the survival benefit observed in some patients. We have limited options for treatment of advanced stage malignancy. Thus, treatment of advanced GI tract malignancy with HUMA deserves a through scientific evaluation.

ABSTRACT 47

PROBLEMS FACED BY PATIENTS WITH ADVANCED MALIGNANT DISEASE TRYING AN ALTERNATIVE CANCER THERAPY

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BACKGROUND AND AIM
Due to shortage of trained personnel and infrastructure and complex socioeconomic conditions, many cancer patients in India are not treated in a hospital / cancer clinic. Many patients are forced to try various complementary and alternative medicines (CAM). The aim of the present study was to make a retrospective
investigation to know about the various problems that are encountered by cancer patients trying an alternative poly herbal cancer therapy called HUMA.

PATIENTS AND METHODS
One hundred and fifty seven patients and/or their care-givers were interviewed and asked to state the problems that they were facing. Over 70% of the cancer patients had either stage III / IV disease. Patients trying HUMA also received conventional supportive care but without radio or chemotherapy.

RESULTS
Fifty (31.8%) patients seemed to be satisfied with the therapy. However, 35 (22.2%) patients reported that their oncologist / clinicians advised them to discontinue HUMA as the therapy was not scientifically proven; 12 (7.6%) care-givers reported that they were not allowed to continue HUMA when their patients were admitted to hospital; in 8 (5.09%) disease regressed remarkably with HUMA but flared up again when the therapy was stopped on the advice of oncologists, as they felt it could have been a spontaneous regression. Fifteen (9.5%) were not properly attended by clinicians after disclosure of alternative therapy. Twenty seven (17.19%) did not disclose the fact that they were taking HUMA to the conventional clinicians. Ten (6.3%) care-givers felt that their patients could be better managed if they were in a hospice.

CONCLUSION
Advanced stage cancer patients trying CAM face many problems. Many Indian cancer patients try CAM because of various problems and finance is a major constraint. However, knowledge / acceptance of CAM among Indian oncologists seems to be poor.

ABSTRACT 53
G3BP2 AND TPM1 mRNA EXPRESSION IN ORAL AND TONGUE SQUAMOUS CELL CARCINOMA

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BACKGROUND AND AIM
To identify whether Ras-GTPase activating protein, SH3 domain-binding protein 2 (G3BP2) and Tropomyosin 1 (TPM1), among genes previously identified in a Differential Display RT-PCR done with primary tumors of patients (pts) with oral and tongue squamous cell carcinoma (OSCC/TSCC), with/without involved lymph nodes (pN+/pN0), were predictive of prognosis in this population.

PATIENTS AND METHODS
We determined the mRNA expression of G3BP2 and TPM1 in primary tumors and adjacent mucosa of 45 OSCC pts and 25 TSCC pts, by using Real time PCR, and correlated these data with clinical and pathological parameters and survival.

RESULTS
The expression of G3BP2 in oral (mean: 0.67 ± 0.74 SD) or tongue (2.26 ± 4.96) primary tumors was down regulated as compared to adjacent mucosa (OSCC: 1.84 ± 1.58, n=24, P < 0.001; TSCC: 4.97 ± 6.55, n=19, P=0.002 - paired Wilcoxon). The expression of TPM1 was also down regulated in oral (0.38 ± 0.42) or tongue tumors (4.58 ± 6.28) as compared to adjacent mucosa (OSCC: 1.91 ± 2.29, n=28, P<0.001; TSCC: 17.69 ±
According to lymph node status, we only identified a marginally significant downregulation of G3BP2 in oral pN+ (0.65 ± 1.32, n=24) as compared to pN0 (0.73 ± 0.76, n=21; P=0.05 - Mann-Whitney) primary tumors. We did not find any correlation between these markers and other pathological parameters. However, OSCC G3BP2 negative pts (expression ≤ tumor median relative expression) had a shorter overall survival (median survival (MS): 14.87 months, n=23) than positive pts (expression > tumor median relative expression; MS: not reached, n=20, P=0.01, Log Rank), as shown by Kaplan Meier survival curve. We did not find any correlation between TPM1 expression and overall survival. The multivariate analysis including lymph node status, size of the primary tumor and G3BP2 expression in OSCC, showed this marker to be an independent prognostic factor and the results revealed that G3BP2 negative pts had a 4.28 times higher risk of death than those who were G3BP2 positive (95% CI, 1.36-13.45; p = 0.01 – Cox Regression). Besides, the association of G3BP2 expression with lymph node status showed that pN+/G3BP2 positive pts had a survival advantage (MS: not reach, n=8) over those pN+/G3BP2 negative pts (MS: 9.6 months, n=15; P=0.003, Log Rank) and also over pN0 pts with G3BP2 negative (MS: 36.83 months; n=9) or positive expression (MS: 28.43 months; n=11).

CONCLUSION
The shorter survival observed in G3BP2 negative pts and the improvement in survival of pN+/G3BP2 positive pts corroborate the protector role of G3BP2, indicating that this gene should be studied as a predictive marker of survival in OSCC pts. FAPESP 02/01738-9.

ABSTRACT 25
TOLERANCE OF IMATINIB MESYLATE IN THE ASIAN POPULATION – AN EXPERIENCE FROM INDIA

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BACKGROUND
Imatinib mesylate is a targeted therapy in Philadelphia positive (Ph+) chronic myeloid leukemia (CML) and Ckit + gastro intestinal stomal tumor (GIST). Imatinib is a potentially curative treatment but also has its side effects. In the phase I & II studies, adverse effects were graded from least severe (grade I) to most severe (grade IV) according to the National Cancer Institute’s (NCI) common toxicity criteria. Most reported adverse effects were mild to moderate in severity. Dose reduction and / or termination of imatinib therapy are required in many cases due to serious adverse effects like hematological toxicities, severe hepatotoxicity, edema, severe skin rashes and nausea and/or vomiting. The aim of our prospective study was to see the tolerance to imatinib in the Asian-Indian population.

MATERIALS AND METHODS
A total of 240 patients were treated with imatinib (Veenat, Natco Pharma) in the Hemato-Oncology department of Netaji Subhash Chandra Bose Cancer Research Institute during the period from January 2002 to July 2006. 190 patients had bcr-abl + chronic myeloid leukemia and 50 had C-Kit + gastro intestinal stomal tumor (GIST). They were started on imatinib at a dose of 400mg, and the dose was increased by 200mg every two weeks, up to 800mg if the patient could tolerate it.

RESULTS
The most common side effects observed were retention of fluid in 144 patients (60%), myelosupression in 96 (40%), muscle cramps in 72 (30%), white skin was seen in 72 patients (30%), diarrhea in 24 (10%), hepatotoxicity in 10 (4.16%). No chronic myeloid leukemia patient tolerated an imatinib dose greater than 600mg, the majority (90%, 171 patients) tolerated only 400mg whereas in GIST, 80% (40 patients) tolerated imatinib at 800mg.
CONCLUSION
Imatinib is a good drug for chronic myeloid leukemia and gastro intestinal stomal tumour patients. The optimal dose tolerated by Indian Asian patients is 400mg for CML and 600mg for GIST.

ABSTRACT 56

POLYMORPHISM OF GLUTATHIONE-S-TRANSFERASE AND DNA REPAIR GENES IN LUNG CANCER PATIENTS: RELATION TO RISK AND CANCER PROGRESSION

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BACKGROUND
In fact, many studies have evaluated the relationships between polymorphism of the detoxification enzyme (GST M1 and T1) genes and the DNA repair (XRCC1) gene with the development of various cancers, but the results are equivocal.

MATERIALS AND METHODS
We have evaluated the polymorphism of GSTT1, GSTM1 and XRCC1genes in 167 patients with lung cancer and in 200 healthy donors. GSTM1 and GSTT1 genotypes were determined by a multiplex polymerase chain reaction. The XRCC1-Arg399Gln polymorphism was determined by a polymerase chain reaction–restriction fragment length polymorphism method. Odds ratios and 95% confidence intervals were used to evaluate relative risk.

RESULTS
Lung cancer risk was significantly increased in the presence of the Gln/Gln genotype of the XRCC1 gene (OR = 1.87, 95%CI= 1.00-3.49, \(\chi^2=4.51, p=0.03\)) and decreased for individuals bearing the Arg/Gln genotype (OR = 0.57, 95%CI = 0.34-0.94, \(\chi^2=5.47, p=0.01\)). We also found that functionally inactive genotypes of GST M1(\(\chi^2=2.21, p=0.023, CI 95\% =1.11-4.42\)) and GST T1(\(\chi^2=1.85, p=0.077 CI 95\% =0.94-3.6\)) as well as their "null" genotype combinations GST T1/M1 (\(\chi^2=2.39, p=0.0168, CI 95\% =1.15-4.97\)) are significantly associated with lymph node involvement in patients with lung cancer.

CONCLUSION
As known, deletion of the GST T1 or M1 genes is associated with enhanced endogenous mutagenic processes and the XRCC1-399Gln allele is associated with lower efficiency of DNA repair. Our data suggest that polymorphism of the GSTT1, GSTM1 and XRCC1 genes may increase not only the risk of lung cancer, but may play a significant role in lung cancer progression.
ABSTRACT 27

SANDWICHING BRACHYTHERAPY DURING TELEIRRADIATION TO SHORTEN TREATMENT DURATION AND TO INCREASE PATIENT COMPLIANCE TO TREATMENT IN SQUAMOUS CELL CARCINOMA OF THE UTERINE CERVIX IN INDIAN WOMEN

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BACKGROUND
The usual practice of teleradiotherapy followed by intra-cavitary brachytherapy at weekly intervals with HDR gives excellent loco-regional control in CA cervix. However, in India many patients do not come for brachytherapy in time as their symptoms subside after teletherapy. This leads to prolonged treatment duration with decreased cure rates. To increase patient compliance to brachytherapy and to keep the treatment duration to less than 8 weeks, sandwich brachytherapy during teleradiotherapy (pilot study) was initiated at GOVT M.N.J.I.O & R.C.C. in 2004 with very good results. We present the protocol and its results.

MATERIALS AND METHODS
30 patients with newly diagnosed squamous cell carcinoma of the uterine cervix stage IB to IIB were treated from Jan. 2004. Teleradiotherapy to the pelvis with a cobalt 60 unit was delivered to 50 Gy by the four field box technique. Midline shielding was done at 40 Gy. Three applications of HDR brachytherapy (700 cGy to point A with each application) were given during the 3rd, 4th and 5th week. The entire tele plus brachytherapy was completed in less than 8 weeks.

RESULTS
27/30 (90%) patients had no evidence of disease at the end of 2 years. 6/30 (20%) patients had Grade I to III G.I. toxicity. 4/30 (13.2%) had hematological toxicity which was easily corrected with supportive treatment. 2/30 (6%) had skin reactions which subsided after completion of the treatment.

CONCLUSION
The sandwiching of HDR brachytherapy during teleradiation is well tolerated and all the patients completed the full course of treatment with manageable G.I., hematological and skin toxicity. The total duration of the treatment was completed in less than 8 weeks with very good locoregional control of the disease.

ABSTRACT 60

DERMATOLOGY OF IMATINIB MESYLATE IN ADULT CHRONIC MYELOID LEUKEMIA

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BACKGROUND
Imatinib mesylate(IM) is a small molecule tyrosine kinase inhibitor which specifically targets a limited set of protein tyrosine kinases namely Abl, Arg (abl-related gene), KIT, platelet derived growth factor receptor & their oncogenic forms, most notably Bcr-abl and has proven to be a ‘wonder drug’ for first line management of chronic myeloid leukemia(CML). The same targets are known to be associated with certain toxic manifestations.
and changes in skin. This study was conducted to bring to light the varied spectrum of dermatological manifestations seen as side effects of imatinib.

**PATIENTS AND METHODS**

Patients with Philadelphia positive CML in all phases treated with Imatinib Mesylate (IM) were analyzed prospectively between 1st April 2004 and 1st march 2006. Cases were evaluated in relation to the dermatologic manifestations after treatment with IM and also its relation to the previous treatment received. The varied spectrum of presentation was analyzed.

**RESULTS**

281 patients who met the study criteria were evaluated. The male: female ratio was 2.4:1(198:83). The median age at presentation was 34 years. 238 patients were in chronic phase (CP), 35 in accelerated phase (AP) and 7 patients were in blast crisis (BC) at diagnosis. 92.8%, 94.3 % & 85.7% of patients in CP, AP & BC respectively received hydroxyurea at some time during the course of treatment. 71% in CP and 5.7% in AP had busulfan prior to IM. A total of 43 cases (18%) in CP, 10 cases (28.6%) in AP and 2cases (28.6%) in BC had skin toxicity. Grade 4 skin morbidity was seen only in 4 individuals (1.4%) who had exfoliative dermatitis requiring extensive support. The spectrum of dermatological findings ranged from hypopigmentation which was seen in 5.3%, hyperpigmentation (mainly malar distribution) noted in 7.8%, exfoliative dermatitis in 1.4%, pruritic dermatosis in 4.6%, hyperkeratosis/ichthyosis in 0.7% and erythematous rash mainly palmo-plantar in distribution were seen in 4.3%.Vasculitis with digital ulcers was observed in 5.3% of patients. Biopsy of skin lesions was done in a few cases but mostly revealed non-specific inflammatory changes with mixed cellular infiltrates.

**CONCLUSION**

A diverse spectrum of skin manifestations was noted in response to IM therapy in CML. Interaction with other drugs received in the past may have contributed in some way to these manifestations. Skin biopsy was mostly non contributory. Most skin lesions were only grade 1 or 2 and did not merit dose adjustment. Hypopigmentation was an interesting manifestation in dark skinned subjects in the Indian subcontinent but in some cases was associated with hyperpigmentation in the malar distribution.

**ABSTRACT 68**

**FACTORS INFLUENCING CANCER MANAGEMENT IN A NIGERIAN TEACHING HOSPITAL**

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**BACKGROUND**

The outcome of adequate management of patients with cancer can be influenced by limited availability of resources and other factors in a Teaching Hospital of a developing country. We report in this article the health care giver perspective of the factors that can influence management of cancer patients with a view to finding ways for improvement.

**MATERIALS AND METHODS**

This is a questionnaire based study. Questions asked were directed at Specialists, Residents and Nurses involved in the care of patients with cancers in the Teaching Hospital in July 2006. Details of diagnostic techniques available, specialist care and treatment options were asked.

**RESULTS**

The age range of the respondents was 26-46 years. The male to female ratio was 1.2:1. Breast (18.3%) and cervical (18.3%) cancers were the commonest malignancies seen in the center. Other malignancies included Hematological (17.6%), Gastrointestinal (15.7%), Renal (10.5%), soft tissue and bone (9.8%), skin (8.5%), others (1.3%). Diagnosis relied on clinical suspiscion (26.2%), cytology (23.8%), histology (34.4%), radiological
imaging (15.1%). Treatment modalities include Chemotherapy (38.3%), Surgery (37.6%), Combination therapy (18.0%), Radiotherapy (6.1%). Patient factors influencing outcome included age and stage of presentation (35.9%), financial constraints (28.9%), ignorance of the disease (23.2%), religious belief (12.0%). Infrastructural factors included lack of molecular techniques (38.2%) and lack of immunohistochemistry (30.9%). The cost of treatment (61.3%) and the cost of establishing diagnosis (38.8%) greatly influenced management. Other factors that affected management outcome included lack of radiation therapy (42.3%), supportive care (24.7%), palliative care (17.5%) and cytotoxic drugs (14.4%).

CONCLUSION
These findings suggest that there is a poor outlook for cancer management in Nigeria. Physicians and other care givers must take a proactive approach in providing the necessary infrastructure according to needs and provide appropriate guidelines for management of cancer patients. The establishment of a cancer registry/unit will be a starting point.

ABSTRACT 43

A PHASE ONE TRIAL OF DENDRITIC CELL VACCINES FOR HPV INDUCED CERVICAL CANCER

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PURPOSE
Human Papilloma virus is a key factor in the development of cervical cancers. While a large percentage of sexually active women are infected with HPV, more than 90% clear the infection. Only a small minority has persistence of HPV infection and these are the patients who show progression of the lesion from low grade CIN to high grade CIN and invasive cancer. The immune system does play a role in clearing the infection. Tumor cells have been shown to down-regulate their Class I MHC molecules and thereby try to evade the immune system. Studies using mature dendritic cells (DCs) have shown that it is possible to induce an immune response to various tumors. The primary objective of the study was to determine the feasibility and toxicity of dendritic cell vaccines for cervical cancers and also to detect immune responses elicited, if any.

MATERIALS AND METHODS
This study is a randomized phase I trial and has 3 arms namely: saline only (ARM I), unprimed mature dendritic cells (ARM II) and tumor lysate primed dendritic cells (ARM III). Patients who had failed standard treatment and had recurrent or residual disease were recruited to the study if they satisfied the eligibility criteria, after informed consent was obtained. They were randomized to one of the three arms. So far 3 patients have been randomized to each arm. Peripheral blood monocytes were obtained from these patients and grown in the presence of IL4 and GM-CSF for 7 days. Immature DCs were allowed to mature in the presence of TNFα & ILβ1 for 2 - 3 more days. For those patients in ARM III the DCs were first primed with patient’s own tumor lysate and then matured with inflammatory cytokines. The harvested DCs were then characterized phenotypically by FACS scan analysis, for surface epitopes- HLA DP, DQ, DR, CD86 and CD14. These tumor-specific dendritic cells were then injected intra-dermally. Three doses of the vaccine were given to patients at intervals of 2 weeks. The patient’s immunological response was assessed by DTH skin test, proliferation assay, CTL assay and IFN-γ flow cytometry. Apart from these, the CD4&CD8 status of the patients, pre and post vaccination was also assessed by flow cytometry. Immunohistochemical studies for the markers CD8, CD20, CD45RO and CD56 were done for 4/9 patients, to assess infiltration of immune cells before and after vaccination. Anti-nuclear antibody ELISA was performed to detect any auto immune responses to the vaccine.

RESULTS
So far, 9 patients have completed vaccination. All the functional studies indicate that priming can make the dendritic cells efficient in presenting the antigens to lymphocytes. Tumor lysates were found to induce a strong response in the lymphocytes. Phenotypic characterization showed that mature dendritic cells of all
the patients in ARM II(3/9) & mature tumor-specific dendritic cells of all the patients in ARM III(3/9) were –HLA DP, DQ, DR (+++), CD86 (+++), CD14 (-). DTH response in 2/3 patients in ARM III and 1/3 patients in ARM II was observed. Anti nuclear antibody ELISA revealed no significant levels of circulating auto antibodies after completing three doses of vaccination in any of the patients (9/9). IHC studies indicated CD8 + T cell infiltration in 1/4 patients. No significant proliferation or cytotoxic responses were observed.

**CONCLUSION**
The study is an ongoing Phase I clinical trial. So far minimal or no toxicity has been observed.

**ABSTRACT 38**

**VALIDATION OF SENTINEL NODE LEARNING CURVE IN BREAST CANCER WITH METHYLENE BLUE**

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**INTRODUCTION**
The management of breast cancer has dramatically changed in recent years. We have advanced from radical mastectomy to simple lumpectomy with axillary dissection. With early cancer detection, tumors are detected whilst still of small size and negative axillary nodes. Consequently there is a real necessity not to perform axillary dissection unless there is evidence of axillary node involvement. To define such node involvement, we need to find out whether the sentinel node (the first axillary node involved by the tumor) is involvement or not. There are two ways to do this: by radionuclide imaging or the methylene blue technique. A randomized clinical trial showed that both methods have an equal percentage of detection and false negatives, but the methylene blue technique is very much cheaper than radionuclide imaging.

**MATERIALS AND METHODOLOGY**
Methylene blue ink was used under the nipple to validate the learning curve (from previous trials, 30 is the right number for this validation). The sentinel node was identified and all then underwent axillary node dissection.

**RESULTS**
Of 31 patients, the sentinel node was positive in 9 cases and negative in 20; in 2 cases, the sentinel node was not found. The percentage of detection was 93.5% (29/31) and there were no false negatives (0/7). In 2 cases, the sentinel node was the only node found to be positive.

**CONCLUSION**
Validation of the learning curve is reached with percentages of detection of 95% and false negatives lower than 5%. Our results of detection of 94% and false negatives of 0% demonstrate that it is not necessary to perform axillary dissection when the sentinel node is negative. This is now the gold standard in our school after this study. The big advantage of methylene blue is its low cost, especially in charity hospitals where it is extremely difficult to get new and expensive technology.
ABSTRACT 10

PEDIATRIC MEDULLOBLASTOMA - EXPERIENCE OF A SINGLE INSTITUTION

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BACKGROUND
Brain tumors represent one of the challenges for pediatric oncologists in developing countries. We report our first experience in the treatment of pediatric medulloblastoma in Morocco.

PROCEDURE
From 1993 to 2004, 29 children with medulloblastoma were admitted to our Unit. Diagnosis of medulloblastoma was proven histologically. The treatment consisted of radiation therapy followed by chemotherapy (Modified Packer protocol).

RESULTS
The mean age was 7.8 years (range, 3 – 17 years) with 18 boys and 11 girls. Among the 29 patients, twenty are evaluable for treatment; the others were lost to follow-up before or during postoperative treatment. Among the 20 evaluable patients, 3 patients had macroscopic metastatic disease. A total removal of the tumor was achieved in 3 patients while there was a partial resection in 14 and a tumor biopsy in 3. Post-operatively, all patients received craniospinal radiation followed by chemotherapy. In total, 12 patients are alive with complete remission in 9 cases and stable residual disease in 3 cases, with a mean follow up of 40 months (range, 13 to 90 months). The event-free survival and overall survival are 43% and 63% respectively. One patient died of sepsis.

CONCLUSION
These results are encouraging for a developing country. Improvements can be achieved with early diagnosis and adequate supportive care.

ABSTRACT 1

ELECTIVE MANAGEMENT WITH NECK DISSECTION, OF NODE-VE (No) ORAL AND OROPHARYNGEAL CARCINOMA

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BACKGROUND
In spite of recent advances in the range and availability of imaging techniques, management of node-ve patients with oropharyngeal squamous cell carcinoma (SCC) remains controversial. Our aim in this study was to identify tumor characteristics suggestive of lymph node metastases.

MATERIALS AND METHODS
SURGICAL CASES: A series of 100 patients undergoing surgery (with elective neck dissection) as the primary treatment for oropharyngeal SCC at the Al-Rashid Military Hospital, Baghdad, Iraq, between June 1994 and June 2002, formed the material of the study. None of the patients had received preoperative radiotherapy,
chemotherapy, or previous surgery, other than a recent diagnostic biopsy. The series comprised 75 males with a mean age of 57 years (SD 11.4, range 30-80 years) and 25 females, with a mean age of 64 years (SD 11.9, range 40-85 years). The site of the primary tumor was tongue in 40; floor of mouth in 30 and oropharynx in 30. The clinical stage of the primary tumor was T1 in 15 patients, T2 in 50 patients, T3 in 24, and T4 in 11.

RESULTS
Cervical node metastases were diagnosed histologically in 41 of 100 patients previously staged as node-ve. The number of positive nodes in the 41 patients ranged from 1 to 6 (mean 1.6, SD 1.18) and in total, 61 positive nodes were detected. 20 nodes (33%) were at level I and had a mean diameter of 11.6 mm. The 41 nodes (67%) at levels II-IV had a mean diameter of 11.6 mm.

CONCLUSION
In this retrospective study, 59% of patients gained no benefit from elective neck dissection because they were found to be pathologically node negative. However, 41% had involvement of cervical lymph nodes. The present study shows the strong possibility of false negatives in Oropharyngeal tumors and hence the need for elective neck dissection in relation to the primary site and stage of the tumor.

ABSTRACT 84

HEMATOLOGICAL AND MOLECULAR PROFILE OF ACUTE MYELOID LEUKEMIA IN INDIAN PATIENTS: AIIMS EXPERIENCE

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BACKGROUND
Cytogenetic abnormalities are the most important predictor of prognostic value in acute myelogenous leukemia (AML). Patients with AML who have translocation t(15;17) or t(8;21) or inversion (16) typically do well. Furthermore, treatment is directed according to the underlying genetic aberration. However, abnormalities in chromosome 5 or 7, as well as duplications of the FLT3 and MLL genes are associated with an adverse outcome. Thus, our aim was to establish a molecular diagnosis of AML in view of its unique therapeutic profile.

MATERIALS AND METHODS
A total of ninety one patients with acute myeloid leukemia were screened by Reverse transcription polymerase chain reaction (RT-PCR) for known AML specific genetic abnormalities. These cases were classified as per FAB classification into M1 (1), M2 (16), M3 (55), M4 (10), M5 (1), M6 (1), seven cases had morphological discrepancy. RNA from bone marrow or peripheral blood of 91 patients at presentation was extracted and reversely transcribed to cDNA and studied for the genetic abnormalities.

RESULTS
Molecular evidence for the t (15:17) rearrangement was identified in 53/55 patients classified as M3 FAB subtype. In 34/53 patients (64%), a 5’ bcr3 PML breakpoint was identified, whereas 19 (36%) patients had a 3’ (bcr1/bcr2) breakpoint. The prevalence of bcr3 (short isoform) was found to be significantly higher than that of bcr1 (long isoform) (64% vs. 36%, P=0.004). No correlation was found between bcr isoform age, sex and WBC count. FLT3/ITD mutations were found in 10/55 patients (18%) of M3 FAB subtype. Patients with FLT3 mutations had a significantly higher median TLC count as compared to FLT3 negative cases (55x10⁹/L vs. 6.8x10⁹/L, P=0.001). The CR rate was much lower (40%) in FLT3 positive cases as compared to 86% in patients who were negative for the FLT3 mutation (P=0.005). Early deaths were observed in patients with FLT3 mutations as compared to those without these mutations (50% vs.16%, P=0.03). The t(8;21) was detected in 12 out of 36 patients of AML (33.3%) and there was no correlation found with clinical or hematological parameters. Sixteen cases classified as FAB M2 showed positivity for t (8; 21). In addition, this gene rearrangement was found in one of 10 FAB M4
patients, in one of FAB M5, one of FAB M6. Seven of our cases had morphological discrepancy and did not have 
AML as defined by accepted criteria, 3 of these cases were positive for the t(8; 21) rearrangement. Inv (16) was 
detected in 2 out of 10 patients classified as AML M4 and in one case with morphological discrepancy.

CONCLUSION
Detection of specific genetic abnormalities by RT-PCR helps in arriving at a definitive diagnosis and predicts 
prognosis in AML.

ABSTRACT 21

ANALYSIS OF TREATMENT RESULTS OF WILMS TUMOR, A FIVE YEAR STUDY IN MOFID CHILDREN’S 

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BACKGROUND
Wilm’s tumor is the most common primary malignant renal tumor of childhood. Developments in surgical 
techniques & post-operative care, recognition of the sensitivity of Wilm’s tumor to irradiation & availability 
of several active chemotherapeutic agents led to a dramatic change in the prognosis for most patients. This 
study was designed to evaluate the treatment results obtained in Mofid children’s Hospital during a five year 

MATERIALS AND METHODS
Clinical stage, histopathologic classification, treatment protocols & results were gathered. Statistical analysis 
was performed using Wilcoxon, Kruskal Wallis and Spearman’s analytical tests.

RESULTS
Of the 54 patients, 28 (51.9%) were male & 26 (48.1%) were female. The median age was 44.5 months (range: 
4-144 months). The tumor occurred on the right side in 24 (44.4%) cases and on the left side in 30 (55.6%) cases. 
None were bilateral. Congenital anomalies were present in two cases, one patient had associated bilateral 
cataracts and the other had genital anomaly and cleft palate. None of the patients gave a positive family history 
of Wilm’s tumor. The most frequent presenting symptom was an abdominal mass in 48 (88.9%) patients. Other 
symptoms included abdominal pain (9.3%), hematuria (5.5%), fever, vomiting, diarrhea & FTT, each in one 
patient (1.9%). 53.7% had anemia, none had polycythemia. Urinanalysis revealed microscopic hematuria in 7 
(13%) patients. Analysis of liver function tests revealed mild elevation of liver enzymes in 5 cases (9.3%). 51.2% 
of the patients presented with stage II, 35.2% with stage III and 13% with stage IV. None had stage I disease. 
Regarding tumor histology, all patients with favorable histology were in stage II or III, 17 cases (70.8%) of those 
with unfavorable histology were in stage II or III, while all cases with stage IV belonged to the unfavorable 
histology group. Fisher’s exact test showed a statistically significant difference between those two groups. 
(P < 0.002). Tumor metastasis was seen in 13 patients (24.1%), the most common site being lung (84.6%), 
followed by brain (7.7%) and liver (7.7%). Three patients (5.6%) left the hospital after clinical evaluation, since 
the parents had not consented to treatment. The rest were treated by standard NWTSG method including surgery, 
radiotherapy and chemotherapy. Of our 51 patients, tumor relapse was seen in 10 patients (19.6%) during or 
at the end of treatment, the most frequent site of relapse was lung (70%), other sites included liver, brain and 
abdomen (initial site of tumor), each seen in one patient. 8 out of 10 patients with relapse, left the hospital 
and were lost to follow-up, since their parents refused further treatment. These were therefore excluded from 
analysis of treatment results. Of our 43 patients, 36 (83.7%) showed a good response to therapy, the other 7 
(16.2%) died. Treatment complications included leukopenia, hemorrhagic cystitis and ptosis, each seen in one 
patient. Statistical analysis performed with Spearman’s analytical test showed a significant correlation between 
age and stage, histopathology and stage, age and occurrence of metastasis while no significant correlation was 
found between gender and occurrence of metastasis and gender with stage.
ABSTRACT 78

KNOWLEDGE, ATTITUDE AND PRACTICE OF CERVICAL CANCER SCREENING AMONGST FEMALE HEALTH WORKERS IN AHMADU BELLO UNIVERSITY TEACHING HOSPITAL (ABUTH), ZARIA, NIGERIA

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BACKGROUND
Cervical cancer is the most common genital cancer in Africa and the second leading cause of death from malignancy among females worldwide except in areas that have a well organized screening program in place. Opportunistic cervical cancer screening is sparingly carried out in some centers in Nigeria with a very low coverage. A collaborative project between MD Anderson Cancer Center (Texas, USA), the British Columbia Cancer Agency (Vancouver, Canada) and some centers in Nigeria is committed to a large population-based screening, to cover 90-95% of women in the age group 35-45years. Against the background of this noble commitment, the aim of this study is to document the knowledge, attitude and practice of cervical cancer screening amongst health workers in a tertiary facility in Northern Nigeria with a female staff capacity of 1411 (out of a total of 3271 staff) of various cadres, educational status and religious beliefs.

MATERIALS AND METHODS
300 questionnaires were produced that were both self and interviewer administered to female health workers in ABUTH, Zaria, between January and February 2006 probing into the knowledge, attitude and practice of cervical cancer screening. Of the 300 questionnaires, 255 were adequately responded to; these were analyzed and form the material for this study.

RESULTS
Of the 255/300 questionnaires returned, 190 (74.5%) of respondents had some knowledge of cervical cancer, out of these 142(74.7%) had heard of cervical cancer screening, and a majority, 111(78%) knew about the Pap smear. Awareness was greatest among professionals. Overall, about 70% of the respondents were in the reproductive age group with 40% in the 21-30year age group. Other screening methods like colposcopy, visual inspection with acetic acid and human papilloma virus assay were poorly known, with colposcopy being the next most known method (13%). The attitude of the respondent with knowledge of cervical cancer screening was good with 144 of the 190 respondents (76%) being interested in screening, while an additional 27 respondents would screen if prescribed. The practice of screening was however limited to only 26 of the respondents, 97% of whom used the Pap smear technique. Factors that were noted to have the potential for increasing the utilization of screening in the survey include the use of female smear takers, decreased cost and increased public awareness (about 25% of respondents were not aware of cervical cancer or its screening methods).

CONCLUSION
There is a fairly good knowledge about cervical cancer and some of its screening methods with a modestly positive attitude towards screening amongst health workers, however, the screening practices are dismal. For a successful implementation of the Operation Stop Cervical Cancer in Nigeria, increased public awareness, understanding of socio-cultural barriers in addition to decreasing the cost of screening are crucial.
ABSTRACT 74

ROLE OF CD15 EXPRESSION AND PROLIFERATION INDEX IN RELATION TO TREATMENT RESPONSE AND SURVIVAL IN CHILDHOOD CLASSICAL HODGKIN'S LYMPHOMA

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BACKGROUND
The prognostic significance of CD15 expression and proliferation index (PI) in childhood classical Hodgkin’s lymphoma (CHL) has not been described as yet.

MATERIALS AND METHODS
One hundred and forty-four HL patients younger than 15 years, with adequate lymph node (LN) biopsy material were included for immunophenotyping by immunohistochemistry (IHC). One hundred and forty-two cases showed immunological features of CHL and were included in the study. PI and percentage of p53-expressing Reed-Sternberg (RS) cells in pre-treatment LN biopsies were assessed by IHC with Ki-67 and p53 antibodies respectively. Treatment consisted of chemotherapy alone with 4 COPP cycles alternating with 4 ‘ABVD’ cycles except for 8 cases treated with 6 to 8 cycles of ‘COPP’. Treatment response and survival were correlated to clinical and biological factors, PI, CD15 and p53 expression.

RESULTS
There were 127 boys and 15 girls, with a median age of 8 years. Stage I, II, III and IV were seen in 14%, 29%, 44% and 13% of cases respectively, and B symptoms in 63%. CD15, Ki67 and p53 were expressed in RS cells in 80.9%, 100% and 89% of the cases respectively. Lack of p53 overexpression was independently associated with loss of CD15 expression. Both were associated with poor overall and failure-free survival (FFS) by univariate analysis, though p53 was not an independent factor. Cases with pre-treatment PI \( \leq 74\% \) had a poorer response to chemotherapy, possibly because it might reflect a low level of endomitosis and a lower chemosensitivity. Independent predictive factors for poor FFS were PI \( \leq 74\% \), lack of CD15 expression, hemoglobin < 10.5 g/dl and low-moderate socioeconomic group.

CONCLUSION
There is a significant association between lack of p53 and loss of CD15 antigen expression in pediatric HL, suggesting that p53 dysregulation might be a possible mechanism for the loss of CD15 expression. CD15 negative RS cells and low pre-treatment PI are predictive of poor outcome in childhood HL and should lead to the use of more aggressive therapeutic strategies.

ABSTRACT 75

INFECTIONS IN CHILDHOOD ACUTE LYMPHOBLASTIC LEUKEMIA: AN ANALYSIS OF 222 FEBRILE NEUTROPENIC EPISODES

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BACKGROUND
Infections are common in acute lymphoblastic leukemia (ALL) the patients and pattern of infections changes with time.

METHODS
A retrospective analysis was performed on febrile neutropenic episodes in patients with ALL followed in the Pediatric Oncology clinic at the All India Institute of Medical Sciences, New Delhi from June 1992 till June 2002.

RESULTS
There were a total of 355 febrile episodes in 266 ALL patients, with a documented absolute neutrophil count (ANC), of which 62.5% (222/355) had an ANC<500/mm$^3$. The focus of infection could be documented in 98/222 (44%) of febrile neutropenic episodes, the rest, 124/222 (56%) were defined as fever of unknown origin. 166/222 (74.7%) episodes of infection occurred in the intensive phase of chemotherapy (induction and consolidation).

There were 274 different sites of infection in the 98 episodes with a documented focus of infection. Amongst these, pulmonary infections were the commonest (27.3%), followed by HEENT (22.9%), gastrointestinal tract (15.3%), blood (15.3%), urinary tract (10.2%) and cellulitis (5.4%). Of 69 bacterial isolates, gram-negative bacteria (n=46, 67%) were twice as common as gram-positive (n=23, 33%). The most common site of isolation for gram-negative bacteria was the blood (50%) followed by the urine (32.6%). Blood (78.3%) was the predominant site of isolation of gram-positive bacteria followed by HEENT (8.7%). Escherichia coli (45.7%) was the commonest gram-negative isolate while Staphylococcus aureus (39%) was the commonest gram-positive bacterial isolate. There were 22 fungal isolates; the majority from urine (n=12) and HEENT (n=9) while there was only 1 isolate from blood. 19/22 fungal isolates were detected during induction chemotherapy. 95/222 (42.8%) febrile neutropenic episodes improved with first-line antibiotic therapy, while modification was required in 127 episodes (57.2%); antifungal therapy was used in 86 episodes (38.7%). There were 13 deaths of which 10 (76.9%) were from pneumonia, 8 (61.5%) from bacteremia, 5 (38.5%) had urinary tract infections, 4 (30.8%) had a gastrointestinal infection and 7 (53.8%) had a documented fungal infection.

CONCLUSION
Gram-negative bacterial infections were the commonest infections. Urine culture was the major site for detection of gram-negative bacterial and fungal infections. The majority of fungal infections were detected during induction chemotherapy. These results stress the need to treat fungal infection early, as this was a major cause of mortality in our patients.

ABSTRACT 18

HUMAN SIN3B PROTEIN CO-OPERATES WITH THE AML-M2 - ASSOCIATED ETO HOMOLOGUES

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BACKGROUND
SIN3 (SWI-Independent) is part of a transcriptional deacetylase complex, which mediates the formation of repressive chromatin. The human SIN3A (hSIN3A) chromatin remodeling complex has been found to be associated with the leukemia-associated ETO (eight twenty-one) co-repressors, as well as with the chimeric oncoprotein AML-1/ETO. The purpose of this work was to study possible interactions between the human SIN3B (hSIN3B) and the ETO homologues – ETO, MTG16 (myeloid-transforming gene) and MTGRI (MTG-related protein 1).

MATERIALS AND METHODS
Immuno-precipitation experiments coupled with Westerns were carried out for checking out interactions. The outcomes of IP-Western were confirmed by performing mammalian two-hybrid assays. Co-localization studies were performed with the help of antibodies specific to ETO homologues and human Sin3B.
RESULTS
Results from ectopic co-expression in COS-7 cells demonstrated formation of complexes between hSIN3B and all three ETO homologues. This was also confirmed in a mammalian two-hybrid system. The leukemia-associated AML1-ETO protein did not bind to hSIN3B. Nucleolar localization of hSIN3B and the ETO homologues, but not of AML1-ETO, was observed. Upon co-expression, hSIN3B and all the ETO homologues co-localized in the nucleolus.

CONCLUSION
Our results suggest that hSIN3B is a new member of a chromatin-repressor complex involving the ETO homologues, but not AML-1/ETO. These observations could be helpful in understanding the role of the chromatin remodeling protein SIN3B vis-à-vis in progression of AML-1/ETO induced Leukemia AML-M2.

ABSTRACT 82
GASTRIC CARCINOMA IN NEPALESE YOUNG ADULTS: PRESENTATION AND OUTCOME

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BACKGROUND
Gastric carcinoma in young adults is usually ignored and thus presents at an advanced stage, translating into poor prognosis. The presentation and outcome of gastric carcinoma in Nepalese young adults are presented here.

MATERIALS AND METHODS
Of 246 patients with gastric carcinoma treated at the Department of Surgery, Tribhuvan University Teaching Hospital, Kathmandu, Nepal over a 5-year period (1995 to 1999), 25 (10.2%) were younger than 40 years of age. The clinicopathologic features and surgical outcome in the young adults were reviewed retrospectively.

RESULTS
In young adults, the mean age of patients with gastric carcinoma was 27.5 ± 6.3 years with the youngest being 16 years old. The usual sex ratio of gastric carcinoma was altered (M12F13) in younger patients. All patients were symptomatic (single or multiple symptoms) for an average period of 8.2 months (range 1 week to 2 years) before seeking medical advice. Gastroendoscopy was not done before presentation to our hospital. Histologically, moderately differentiated or undifferentiated lesions predominated (64%) in younger patients. Although most patients had advanced stage (stage III or IV) disease, the proportion undergoing curative resection was 12% and they survived for more than two years without any evidence of recurrence. Five year survival was noted in only 4% of the cases which is similar to that in the older age group. Twelve patients (48%) underwent palliative resection, out of which 7 had a recurrence within one year.

CONCLUSION
A high index of suspicion and liberal utilization of gastroendoscopy, combined with an aggressive approach to gastric carcinoma would probably lead to improved survival for young patients with gastric cancer.
ABSTRACT 80

CANCER EPIDEMIOLOGY EDUCATION IN SPECIAL POPULATIONS

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BACKGROUND
There is a limited number of cancer epidemiologists who are trained to pursue careers in cancer epidemiology in international settings. The National Cancer Institute, USA, has awarded a new training grant to the University of Michigan.

OBJECTIVES
The objective of this 5-year project is to develop an educational program to motivate and educate epidemiology students to pursue careers in international cancer epidemiology research. The program will also strengthen the University of Michigan cancer research collaborations with international cancer centers and expert oncologists and cancer researchers in developing countries.

METHODS
This training project will be a curriculum-driven program that includes new elective courses, special studies, and short-term research-oriented field experiences in international settings. The program will recruit at least 50 students who intend to have careers in cancer epidemiology, with interest in conducting research in international settings. This program will define cancer as an important educational and research discipline in international settings. The educational program before and after the internships will equip the students to pursue careers in cancer research.

CONCLUSION
Strategies developed and lessons learned through this program should have widespread applicability to other U.S. and international biomedical cancer education and research programs. The University of Michigan plans to disseminate the program through partnerships with programs that have the potential and interest in adopting it. Partnerships with institutions in developing countries are the ultimate goals of this program.

ABSTRACT 63

SISTEMA INTEGRADO DE PREVENCIÓN DE ERRORES EN EL PROCESO DE UTILIZACIÓN DE MEDICAMENTOS (PUM) EN ONCOLOGÍA

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JUSTIFICACION
Los errores de la medicación (EM) en la quimioterapia o la medicación adyuvante que se utilice en cualquier etapa del proceso de utilización del medicamento (PUM) son una causa frecuente de eventos adversos de los fármacos antineoplásicos.
METODOLOGÍA
Se revisó la literatura publicada desde 1995 hasta enero del 2006 aparecida en MEDLINE. La estrategia de búsqueda se condujo bajo los términos “medication errors” and “chemotherapy”. Un número adicional de búsquedas se realizaron bajo los términos: “safety patient”; “antineoplastic drugs”; “preventing medication errors” y se combinaron entre sí. Se implementó una estrategia de trabajo en la prevención de errores en las fases del PUM en oncología por etapas desde el año 2000 hasta la fecha.

RESULTADOS
Se introdujeron como aspectos novedosos: guías de práctica clínicas en las primeras 20 localizaciones de cáncer, hoja de tratamiento de quimioterapia, indicaciones estandarizadas en hojas preimpresas, tablas de diluciones de fármacos, nuevos sistemas organizativos de enfermería, procesos asistenciales de enfermería para hospital de día y hospitalización, así como autoreporte de toxicidad por el paciente. La aplicación de la estrategia propuesta implica una disminución considerable del EM, un incremento de la calidad de vida, en el índice de respuesta del tumor a la quimioterapia antineoplásica y en la supervivencia global de los pacientes. Contribuye a la reducción de los gastos sanitarios directos (disminución de las complicaciones y los tratamientos que de ello se deriva, tiempo real del personal en las diferentes fases del PUM y del consumo de citostáticos) y los gastos indirectos.

CONCLUSIONES
Constituye el primer reporte de un sistema integrado de prevención de errores en el PUM antineoplásicos en países con recursos limitados y puede, por su sencillez y factibilidad, ser aplicado en cualquiera de estos países. Actualmente se extiende su aplicación a nivel nacional.

ABSTRACT 64
QUIMIOTERAPIA METRONÓMICA CON CICLOFOSFAMIDA Y METHOTREXATE EN PACIENTES CON CÁNCER DE MAMA METASTÁSICO EN PROGRESIÓN

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JUSTIFICACIÓN
El empleo de bajas dosis de agentes citotóxicos de manera continua por períodos prolongados, ha demostrado ser una alternativa para el tratamiento de pacientes con cáncer de mama metastásico (CMM) por ser una brecha ante la resistencia a los fármacos conocidos y por sus beneficios en términos de calidad de vida.

PACIENTES Y METODOS
Fueron evaluadas 28 pacientes entre abril del 2002 y diciembre del 2005, con diagnóstico de CMM en progresión, con ECOG ≤ 2, tratadas previamente con al menos dos líneas de quimioterapia para enfermedad metastásica y con el consentimiento informado de las pacientes. El tratamiento fue administrado de la siguiente forma: Methotrexate por vía oral a dosis de 2,5 mg/2v/día por dos días, semanalmente y la Ciclofosfamida, 50 mg/día por cinco días, semanalmente. Los análisis de supervivencia se realizaron por el método de Kaplan-Meier.

RESULTADOS
La mediana de edad fue 56 años (36-74) y 12 pacientes tenían más de 1 sitio metastásico. Se obtuvo respuesta objetiva (RC + RP) en 14 pacientes, EE en 8 y progresión en 6 pacientes. La mediana del tiempo en obtener respuesta fue de 2,8 meses (IC 1,9-3,5) y la mediana de duración de respuesta (en respondores) fue de 7,9 meses (IC 3,7-26,2). Los sitios metastáticos más respondedores fueron: piel e hígado. Las toxicidades más frecuentemente observadas fueron: anemia y leucopenia grado 2 en 11 pacientes, toxicidad hepática grado 3 en 1 paciente y grado 2 en cinco y náuseas grado 3 en tres y grado 2 en seis pacientes.
CONCLUSIONES
Las quimioterapia metronómica puede constituir una opción terapéutica muy útil en el escenario del CMM, dado los beneficios en calidad de vida, las ventajas de la vía oral, su escasa toxicidad y su bajo costo.

ABSTRACT 72

CLONAL IMMUNOGLOBULIN GENE REARRANGEMENTS AND JUNCTIONAL REGION CHARACTERISTICS IN PRECURSOR B-CELL ACUTE LYMPHOBLASTIC LEUKEMIA

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INTRODUCTION
Precursor B-cell Acute Lymphoblastic Leukemia (ALL) is the clonal malignant counterpart of normal B-cell precursors in bone marrow. It includes Common ALL, Pre-B ALL and Pro B-ALL. The incidence of precursor B-ALL is 45.4% of ALL seen at the Cancer Institute (WIA), Chennai. During early B-cell differentiation, the germline variable (V), diversity (D) and joining (J) gene-segments of the Ig variable heavy chain rearrange by V(D)J recombination. The Ig heavy chain (IgH) genes encoded on chromosome 14q32.2 are grouped into 7 VH families, 7 DH families and consist of 6 functional JH segments.

OBJECTIVES OF THE STUDY
To detect the pattern of clonal IgH gene rearrangements and junctional region characteristics in precursor B-ALL patients at presentation and standardize the quantitation of minimal residual disease (MRD) using Real-time Quantitative PCR.

PATIENTS AND METHODS
BM/PB from 50 precursor B-ALL (Common ALL = 37, Pre-B = 10, Pro-B = 3) cases were studied. Age of the patients ranged from 1 yr to 25 yrs (median age = 9 yrs). The clonal IgH gene rearrangements were detected by PCR with Homo-Heteroduplex analysis. In 20 cases, the clonal homoduplex products were cut, eluted and sequenced to identify the junctional regional sequences.

RESULTS
IgH gene rearrangements were detected in 41 of 50 (82%) cases. Clonal rearrangement of VH3-JH was commonly detected in 25 (50%) cases followed by the VH1 family in 12 (24%) cases; VH4 in 9 (18%) cases; VH2 in 6 (12%) cases; VH6 in 4 (8%) cases and VHS in 3 (6%) cases. The junctional region sequence of IgH gene rearrangements ranged from 11 nucleotides (nt) to 93 nt (mean = 49 nt). Quantitation of MRD using IgH gene rearrangements was standardized in a case of precursor B-ALL that reached a reproducible sensitivity of detecting one leukemic cell in 10^5 normal cells.

KEYWORDS
Precursor-B-ALL, MRD, Real-time Quantitative PCR, Homo-Heteroduplex analysis.
ABSTRACT 57

PRELIMINARY RESULT OF ICE BASED CHEMOTHERAPY IN EXTRAOCULAR OR METASTATIC RETINOBLASTOMA PATIENTS

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Extraocular retinoblastoma occurs more frequently in developing countries, presumably as a consequence of delayed diagnosis and the prognosis is poor. It was suggested that this group of patients benefits from intensive therapy that includes chemotherapy and radiation therapy.

PURPOSE
To assess the effectiveness and compliance with therapy in patients with extraocular or metastatic Rb at our institution using 'ICE' based chemotherapy.

PATIENTS AND METHODS
Six patients with metastatic/recurrent retinoblastoma (Rb) and 3 patients with extraocular retinoblastoma with no metastases, presenting between January 2002 and September 2006 were included in the study (total 9 patients, ages: 2 years – 12 years, 6 boys, 3 girls). Two out of 3 extraocular Rb patients had bilateral Rb while in the metastatic Rb group only 1 patient had bilateral disease and the other one, trilateral Rb. Five out of 6 metastatic Rb patients had a gross orbital mass, 3 patients with extraocular disease with no metastases had no orbital mass, but scleral invasion or optic nerve cut end positivity. In metastatic Rb group, all except one had CNS metastases, while the other one had bone-marrow involvement. Patients received 3-6 cycles of 'ICE' chemotherapy (Ifosphamide 1.8 g/m² x 5 days, Carboplatin 560 mg/m² on day 1, Etoposide 100 mg/m² x 5 days). All but one patient also received radiotherapy.

RESULTS
The orbital mass regressed almost completely after 1 cycle of 'ICE' in all patients. The CNS mass disappeared after 1 to 3 cycles of 'ICE' in parallel with cytological remission of the cerebro-spinal fluid. Between 7-20 days of neutropenia was seen after each chemotherapy cycle. Almost half of the neutropenic episodes were associated with fever, without any microbiological documentation. One patient had hemorrhagic cystitis. All of the metastatic Rb patients have died between 6 to 17 months (median: 9.5 months) with progressive disease. 2 out of 3 extraocular Rb patients with no metastases were in remission after 3 years of follow-up. One patient was lost to follow-up in remission at 9 months.

CONCLUSION
The 'ICE' protocol combined with RT is effective in extraocular Rb with no metastases. In addition 'ICE' seems to be effective in patients with advanced stage/metastatic retinoblastoma in terms of achieving complete response, although sustained remission is still difficult. On the other hand, the toxicity of the protocol was manageable in our institution.
THE SEROPREVALENCE OF KAPOSI’S SARCOMA ASSOCIATED HERPES VIRUS AND HUMAN HERPES VIRUS-6 SEROPREVALENCE IN PEDIATRIC PATIENTS WITH CANCER AND HEALTHY CHILDREN IN A TURKISH PEDIATRIC ONCOLOGY CENTER

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BACKGROUND
Kaposi’s sarcoma associated herpes virus type 8 (KSHV/HHV8) is one of a few viruses proven to be associated with tumorigenesis in humans, which shows geographic variation in incidence rates like EBV infection. Limited studies in the US and Europe show HHV8 seroprevalence rates of 0-4%, comparatively higher in Eastern Europe and highest in Africa. Human herpes virus 6 (HHV-6) is a potentially oncogenic virus (due to viral latency primarily established in lymphocytes) and is widely distributed in the human population. There are some studies supporting the role of the HHV-6 infection at the onset of childhood leukemia.

AIM
To determine the seroprevalence of HHV8 and HHV-6 in pediatric cancer patients on admission as an etiologic risk factor and to compare with healthy Turkish children’s HHV8 seroprevalence.

PATIENTS AND METHODS
Eighty-eight pediatric cancer patients (lymphoma: 31 patients, ALL: 17 patients, retinoblastoma: 40 patients, age range: between 3 months - 18 years) and 37 age-matched healthy children were included in the study. All sera were screened for antibodies to HHV8 by ELISA. A somewhat different group, but including some of the same patients was screened for anti-HHV-6 IgG, also by ELISA (ALL: 16 patients, lymphoma, 29 patients (non-Hodgkin’s lymphoma 21 and Hodgkin’s lymphoma 8) retinoblastoma: 40 patients (age range 3 months - 18 years)

RESULTS
The prevalence of antibodies against HHV8 in healthy Turkish children was 5.7%. HHV8 seroprevalence was 3.2% in patients with lymphoma, 5.8% in ALL and 7.5% in retinoblastoma. There was no significant difference in HHV8 antibody prevalence between healthy children and pediatric cancer patients (OR: 0.6, 95% CI: 0.05-6.8; p: 0.85 for lymphoma patients, OR:1, 95% CI: 0.09-12; p: 0.57 for ALL group, and OR:1.4, 95% CI: 0.2-8.7, p:0.9 for retinoblastoma patients). In healthy Turkish children, the rate of seropositivity to HHV-6 was 75.6% (seropositivity according to age group, as follows: age 0-1: 61%, age 1-2: 80%, age 3-5: 83%, age 6-10: 87.5%). HHV-6 seroprevalence was 87% in ALL, 72.4% in lymphoma (75% in Hodgkin’s disease and 40% in NHL) and 82.5% in retinoblastoma. Although HHV-6 seroprevalence was higher in ALL patients than in the control group (OR: 2.25, 95% CI:0.42-11.8), there was no significant difference in HHV-6 antibody prevalence between healthy children and pediatric cancer patients overall (OR:1.03, 95% CI:0.17-6.07, for HD patients; OR:1.24, 95% CI:0.37-4.16, for the NHL group; OR:1.5, 95% CI:0.5-4.5 for retinoblastoma).

CONCLUSION
Although EBV seropositivity is high in Turkish children, similar to that in endemic areas, HHV8 seroprevalence is not as high as in Eastern Europe or in Africa, but similar to that in Italy (3.5 – 7.8%). These results correlate well with a low incidence Kaposis sarcoma in Turkish pediatric cancer patients, according to Turkish Pediatric Oncology Tumor Registry data (only 1 pediatric Kaposis sarcoma amongst 1218 pediatric cancer patients in 2003). There is no Kaposis sarcoma registry data for 2002 and 2004). There was no significant difference in HHV8 seropositivity between healthy children and pediatric cancer patients. HHV-6 seroprevalence is high in healthy Turkish children (60% in first age group and 87.5% in those aged 5-10). Although in the ALL group, HHV-6 seroprevalence was higher than control group, there was no significant difference in HHV-6 positivity between healthy children and other pediatric cancer patients overall.
ABSTRACT 22

SURGICAL TREATMENT OF PRIMARY HEPATOCELLULAR CARCINOMA AT CAN THO GENERAL HOSPITAL

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BACKGROUND
Hepatocellular carcinoma is one of the most common cancers in south-east Asia and Sub-Saharan Africa. In Vietnam, this malignant disease is the third most common cancer among men and the sixth among women. According to the population-based cancer registry, during the period from 2001 to 2004 in Can Tho, the most populated area of the Mekong Delta, hepatocellular carcinoma was the most common cancer among men with an ASR of 27/100000 and the fifth among women with an ASR of 7.8. The majority of patients hospitalized in Can Tho General Hospital had either advanced stage or diffuse multifocal lesions, disseminated on both sides of the liver and beyond radical surgical management. Their outcomes were very limited. Therapeutically, total resection of the tumor is still the treatment of choice and resectability of the tumor represents a better outcome for the patient. We carried out this prospective study in order to:
- Evaluate the clinical characteristics and signs of hepatocellular carcinoma managed at Can Tho General Hospital.
- Study the indications for surgical treatment for this commonest cancer in the Mekong Delta Area.

MATERIALS AND METHODS
43 cases among 216 hospitalized patients with primary hepatic cancer, at the Oncology Department of Can Tho General Hospital, were surgically treated during the period of 5 years from 1 Jan. 2001 to 31 Dec. 2005, of whom 36 were males and 7 females. Surgical treatment was indicated for a single tumor or concentrated multiple tumors of either left or right lobe of the liver, in patients without significantly impaired liver function.

RESULTS
The mean age was 53.5, the youngest patient was 31, the oldest 72. Common clinical manifestations were weakness, anorexia, weight loss, pain over the liver area and hepatomegaly, with or without palpable tumor. Paraclinical signs: HBsAg 32/39 positive, elevated concentration of AFP 40/43, tumor revealed by ultrasound 43/43 and by computed tomography 38/38. Staging according to UICC criteria: 14/43 stage II, 25/43 stage III, 04/43 stage IV. Surgical treatment: 10/43 emergency operations and 33/43 elective operations. Surgical techniques: 15/43 right hepatectomy, 9/43 left hepatectomy, 7/43 left lobectomy, 6/43 right bi-undersegmentectomy, 5 ligature of hepatic artery and 1/43 exploration and biopsy only. The results of treatment depended on the resectability and stage of the tumor.

CONCLUSION
Primary hepatocellular carcinoma is one of the most malignant diseases in Viet Nam of which the pathogenesis is closely related to viral hepatitis due to HBV, to alcoholism and some toxins: dioxin, aflatoxin. The diagnosis is based on clinical manifestations; Ultrasonography may help to reveal the primary liver cancer in the early stage in persons who are HBsAg positive. CT scanning is necessary for diagnosis and for evaluation of the character of the lesion. Surgical management is indicated for single tumors or multiple tumors concentrated on the same side of liver. Hepatocellular carcinoma diagnosed in its early stages and surgically treated by hepatic resection significantly improves the survival of patients.
**ABSTRACT 85**

**SCREENING FOR RETINOBLASTOMA (RB) IN CHILDREN - TWINNING WITH THE PULSE POLIO IMMUNIZATION PROGRAM OF THE GOVT. OF INDIA**

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**AIM**

Earlier, an awareness campaign and screening for RB was carried out successfully in a district hospital in India. The polio eradication program of the Govt. of India aims to give oral polio vaccination to children < 5 years age at an interval of 6 weeks. The main objective was to screen for RB in children who were coming for the Pulse Polio program to the centers.

**METHOD**

10 Ophthalmologists and 2 Pediatric Oncologists visited a primary health centre (PHC) and subcentre in a rural area at Najafgarh, New Delhi on Pulse Polio Day, February 27, 2005. 700 children were screened as and when they came to the centers for the Pulse Polio immunization. As soon as the immunization was over, the children were screened by the ophthalmologist by focal illumination, direct Ophthalmoscopy on undilated pupils and indirect ophthalmoscopy under dilatation in suspected cases. The Pediatric Oncologist took a detailed history from parents for any cancer in the family, decreased vision, cat’s eye reflex and squint. Three to four days before Pulse Polio day, the PHC in charge circulated pamphlets on RB to the population. The parents were questioned after the screening about whether they liked the idea of screening for an eye tumor to be done along with Pulse Polio Immunization.

**RESULTS**

There was a tremendous response and parents were very pleased that we were screening for a curable cancer. There were 10 families with a history of cancer. 3% of the children had benign Ophthalmological conditions.

**CONCLUSION AND RECOMMENDATION**

RB screening in children who were coming for the Pulse Polio program was successful. This is to recommend to the Govt. of India that capacity building at the centers and subcentres should be done for twinning of the programs.

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**ABSTRACT 86**

**HUMAN PAPILLOMA VIRUS (HPV) INFECTION IN RETINOBLASTOMA (RB)**

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**HYPOTHESIS**

Is the increased incidence of RB found in India due to increased HPV infection in the mother?

**AIM**

HPV infection is oncogenic and initiates >99% of cancer of the cervix. In India, >15% of women have persistent
HPV infection. In this pilot study we screened for HPV-DNA in RB tissue from children who were undergoing enucleation for RB and also in the endocervical brushings (EB) of their respective mothers.

PATIENTS AND METHODS
13 children with RB ranging in age from 24-60 months, who underwent enucleation as part of treatment for RB were included. RB tissue was collected and transported on ice. The EB of the mothers were collected in 5ml of normal saline, transported on ice and immediately screened for HPV-DNA. DNA was isolated by standard techniques and PCR carried out using consensus primers as well as type-specific primers for HPV-16. Only HPV-16 was screened and other types of HPV are yet to be screened.

RESULTS
Out of the 13 cases studied, only 2 cases of RB tissue were found to be positive for HPV and for HPV 16. The respective mothers were also positive for HPV 16.

CONCLUSION
This is a pilot study, further research needs to be done to evaluate HPV as the cause of second mutation in the evolution of RB. Hence, risk factors including antibodies to herpes simplex type – 2 or chlamydia trachomatis infection in RB cannot be ruled out.

ABSTRACT 61
Ala43Thr POLYMORPHISM OF bcl2 IS ASSOCIATED WITH RISK OF GASTRIC NEOPLASMS

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BACKGROUND
Dysregulation of apoptosis and alterations in apoptosis-related genes are reported in gastric neoplasms (GN). bcl-2 is a suppressor of apoptosis and therefore prolongs cell survival. We aimed to study the role of bcl-2 polymorphism (Ala43Thr) in patients with GN.

METHODS
Genotyping for Ala43Thr polymorphism in exon2 of bcl-2 gene was done by polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) in 47 patients with GN and 200 healthy controls.

RESULTS
The GN were intestinal, diffuse and of unclassified type in 29 (62%), 8 (17%) and 1 (2%) patient, respectively; 9 (19%) other patients had primary gastric lymphoma. Three genotypes of bcl-2 were observed: Ala homozygous (AA), Ala heterozygous (AG) and Thr homozygous (GG). Patients with GN more often had AG [19/47 (40%) vs 38/200 (19%); p=0.003, OR = 2.89, CI 95%] and GG genotype [10/47 (21%) vs 3/200 (1.5%); p=0.000, OR = 17.7, CI 95%], than controls. Frequency of the AA genotype was higher in controls than in GN [159/200 (80%) vs 18/47 (38%); p=0.000, OR= 0.16, CI 95%]. Frequency of the Thr allele was higher in GN than in controls (42% vs 11%, p=0.000; OR=5.73, CI 95%).

CONCLUSION
GG and AG genotypes of the bcl-2 gene are risk factors while the AA genotype has a protective role for GN in Indian population.
ABSTRACT 17

CURRENT MANAGEMENT OF PEDIATRIC HODGKIN’S LYMPHOMA IN HCM CITY, VIETNAM

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BACKGROUND
Hodgkin’s Lymphoma (HL) accounts for approximately 4.5% of all pediatric malignancies in HCM City, VN. Since 2001 we have applied for the first time in HCM city a therapy strategy based on GPOH – HD 95 protocols. The endpoints were to get the best results of treatment, to minimize chemo-radiation therapy toxicities and to relieve the psychological and financial burden for children with HL. The aim of this study is to report the clinical features and treatment outcomes of childhood HL treated with HD 95 protocols at the HCMC Cancer Center.

PATIENTS AND METHODS
- 39 patients younger than 15 with newly diagnosed Hodgkin’s Lymphoma were observed in 2001 – 2004.
- Retrospective and prospective open study.
- The diagnosis was based on clinical presentations, imaging (XR, ultrasound, CT scan), classical histopathology.
- Regarding the clinical stage of disease we adopted the Ann Arbor staging system.
- GPOH- HD 95 has been used as standard therapy: multiagent chemotherapy + low dose IFRT.
- Assessment: the primary response, 3 y. EFS and survival, toxicity and tolerability (NCI guidelines).

RESULTS
- 39 cases were enrolled with 26 boys (66.7%), 13 girls (33.3), male/female ratio 2.0/1.0
- 73% were diagnosed at the age range 10-15
- Clinical features: cervical lymphadenopathy (96%), mediastinal LN (70%), fever (20%).
- Pathology: subtypes, I: 11 cases (28.2%), II: 5 cases (12.8%), III: 20 cases (51.3%), IV: 3 cases (7.7%)
- Clinical staging: stage I: 3 (7.7%), II: 18 (46.2%), III: 10 (25.6%), IV: 8 (20.5%)
  - 15 cases had B symptoms (38.4%)
- Therapeutic management: GPOH – HD 95 protocols
  * Stage I A, IIA patients (n=18) received OEPAX 2
  * Stage IB, IIB, IIIA patients (n=16) received OEPAX 2 + COPx 2 plus low dose IFRT 20-25 Gy
  * Stage IIIB, IV patients (n=5) received OEPAX 2 + COPx 4 plus low dose IFRT 20-25 Gy.

Note:
- IFRT if there was bulk disease >5cm at the initial diagnosis, or post-chemo residual disease > 2cm.
- Procarbazine was replaced by Etoposide in the initial chemotherapy due to its unavailability in VN. The 2nd course of chemotherapy was COP regimen only (without Procarbazine).
- 18 cases (46.2%) had radiation therapy additionally.
- With a median follow-up of 36 months: 95% achieved complete remission. Relapse occurred in 2 patients (5%).
- Minor toxicities such as grade 1-2 anemia, leucopenia, nausea/vomiting, anorexia, … were recognized and controllable. Long-term toxicities or secondary malignancies have not been detected yet after 3 y. surveillance.

CONCLUSION
Childhood Hodgkin’s disease is less common than non-Hodgkin’s Lymphoma in HCM City, VN. 59% patients were entered with advanced stage (III, IV), B symptoms (38.4%), and mixed cellularity subtypes (51.3%). The overall 3y survival (88.1%) and EFS (75.4%) are still lower than in other publications. But GPOH- HD 95 is an effective, less toxic, and low-cost treatment for pediatric HL in VN. It is well-tolerated in the children and accepted by their parents.
ABSTRACT 67

SECONDARY NEOPLASIAS SEEN IN LONG-TERM SURVIVORS OF PEDIATRIC HODGKIN’S DISEASE RECEIVING MOPP AND RADIOTHERAPY

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BACKGROUND
With the progress made in Pediatric Oncology over the past few decades, an increasing number of children with cancer can be expected to be cured of their disease. There is a need to screen the survivors of childhood cancer for the late effects of chemo-radiotherapy. When compared with age-matched controls, survivors of childhood cancer have been estimated to have a 10 to 20 times greater lifetime risk of developing a second cancer.

MATERIALS AND METHODS
Thirty-nine children with newly diagnosed Hodgkin’s disease were treated in Ankara University Department of Pediatric Hematology-Oncology between 1970 and 1984. There were 29 males, 10 females. The median age was 10 years with an age range of 3-15 years. The majority of the patients had Stage III-IV disease with a predominance of the mixed cellularity Histopathological subtype.

RESULTS
Twenty-four patients had received ‘MOPP’ combination chemotherapy (10-12 cycles), whereas 14 were given ‘sandwich therapy’ (3 ‘MOPP’+ involved field radiotherapy (RT): 25-35 Gy+ 3 ‘MOPP’). One patient was treated with Cyclophosphamide (CTX) + Vincristine (VCR) + Adriamycin (ADM) (4 cycles) and ‘MOPP’ (2 cycles) + 38 Gy mediastinal RT. Eleven patients were lost to follow-up. Among long term survivors, secondary neoplasias occurred in 3 out of 28 patients, as detailed below:

Case 1: Nine-year-old male patient, diagnosed as clinical stage I mixed cellularity HD, received local RT 40Gy to the neck. He relapsed 3.5 years later with clinical stage IV disease and was treated with 10 cycles of ‘MOPP’. He developed fibrosarcoma 8 years after the initial treatment, followed by thyroid carcinoma diagnosed 16 years and right retrobulbar meningioma 30 years later. The patient was treated accordingly and he is well at present.

Case 2: Fifteen-year-old male patient, diagnosed as clinical stage I lymphocyte predominance HD. Received 3 cycles of ‘MOPP’ and 40Gy RT to the neck, developed a benign thyroid nodule 27 years after the treatment. Surgical excision was performed, the patient is alive and well.

Case 3: Ten-year-old female patient with nodular sclerosing HD, who had received nitrogen mustard + vinblastine and local RT (40Gy to the neck) developed mediastinal relapse 4 years after the initial treatment and was given CTX+VCR+ADM (4 cycles) + MOPP (2 cycles). She developed benign thyroid nodule 14 years later and invasive ductal carcinoma of the left breast 30 years after the therapy. She is alive at present.

CONCLUSION
Pediatric Hodgkin’s disease appears to be the most common malignancy to precede both hematologic and nonhemato-logic secondary neoplasias. Acute leukemias particularly acute nonlymphoblastic leukemias are the most common secondary malignancies followed by non-Hodgkin’s lymphomas, bone and soft tissue sarcomas. Nonhematologic tumors developing after Hodgkin’s disease are associated with radiation therapy, with two-thirds occurring within radiation sites. The follow-up of adult survivors of childhood cancer, which include monitoring for the detection of late effects, necessitates a good collaboration between pediatric and adult oncology units.
ABSTRACT 45

GENDER RATIO IN THE OFFSPRING OF BRCA MUTATION CARRIERS FROM PAKISTAN

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BACKGROUND

Data from experience in Europe and North America regarding the gender ratio in the offspring of BRCA mutation carriers remains controversial. It is not clear if germline mutations in the BRCA genes favour female births or whether the gender imbalances are attributable to ascertainment bias. We studied the male-to-female offspring gender ratio in 165 Pakistani women from breast and/or ovarian cancer families that were either positive or negative for BRCA mutations.

MATERIALS AND METHODS

A total of 165 female index patients from breast and/or ovarian cancer families who had been completely screened for BRCA mutations were included in this study. Among these, 23 carried a deleterious mutation in BRCA1, 7 in BRCA2, and 135 were non-carriers. The breast/ovarian cancer families and mutations have been described previously (Rashid et al., 2006) and are summarized by risk assignment as follows: 84 families had 1 breast cancer case (<30 years), 28 had 2 first-degree breast cancer cases (>1 diagnosed ≤ 50 years), 14 had 3 or more breast cancer cases (>1 diagnosed ≤ 50 years), 14 had 3 or more cases (>1 breast cancer case and >1 ovarian cancer case), 22 had 1 ovarian cancer case (<45 years) and 3 had 2 or more ovarian cancer cases (>1 diagnosed ≤ 45 years). The x² test was used to analyze the gender ratio (male:female) in the offspring from index patients with and without BRCA mutations.

RESULTS

Overall, there were 60 offspring of BRCA mutation carriers and 304 from non-carriers. No difference between the male-to-female offspring ratios between the two groups was observed. Among mutation carriers, the offspring gender ratio was 1.4 (35 males, 25 females), it was 1.0 in non-carriers (153 males, 151 females) (x²=1.29, p=0.25).

CONCLUSION

Our study showed no evidence of gender ratio skewing in the offspring of female BRCA mutation carriers vs non-carriers in Pakistani breast/ovarian cancer families.

ABSTRACT 88

INFORMED CONSENT IN PALLIATIVE CARE IN NEPAL

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BACKGROUND
In Nepal, doctors usually do not tell the diagnosis of malignancy to the patients because the relatives request not to do so. This study aims to quantify the amount of actual disclosure of a cancer diagnosis that takes place, through a survey of patients admitted for hospice care, and to compare this with preferences regarding cancer disclosure from a survey of the general population.

PATIENTS AND METHODS
A prospective survey of the 96 patients admitted to ‘Hospice Nepal’ over the one-year study period and a survey of 256 of the general population in and around Kathmandu with a questionnaire.

RESULTS
A survey of the 96 patients admitted to Hospice Nepal over the one-year study period showed that 19 (20%) of the patients had knowledge of both their disease and the stage of the disease; 16 (17%) knew that they had cancer but did not know about their disease progression or prognosis; 61 (63%) were unaware of the nature, seriousness or prognosis of their disease. A survey of the general population in Kathmandu showed 204 (80%) of the 256 respondents wanted to be informed if they were diagnosed with cancer, even if it was incurable; 44 (17%) wanted to be informed of such a diagnosis only if it was curable; and 8 (3%) did not want to be informed of such a diagnosis at all.

CONCLUSION
In Nepal, there is a clear disparity between what patients would like to be told should they develop cancer, and what patients with cancer know about their disease. In the Asian context, it is not unusual to be advised that western practices of disclosure are inappropriate, yet this study, conducted in a very non-western culture, shows that the patient’s wish to know about their illness is a desire which can transcend cultural and ethnic differences.

ABSTRACT 79

ADVERSE EVENTS CALCULATION AND REPORTING USING A WEB-BASED MODULAR TOOL – ePRO2CAL

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BACKGROUND
The collection, analyses and reporting of adverse events (AE) is a critical task during the process of a clinical trial. Currently, the system of reporting of AE by individual institutions and agencies is largely in a paper format and non-conformant for various technology standardizations. Systems designed should be able to calculate, collect and report data relevant for clinical trials-related AE and should have conformance with regulatory guidelines. The system should also communicate and send reports to regulatory agencies related to AE. AE information should be able to be disseminated to other identified entities. ePRO2CAL was designed to address these issues related to AE.

MATERIALS AND METHODS
ePRO2CAL is a PHP/Oracle/Apache Windows web-based modular solution which is capable of automatic detection and triggering of AEs. Additionally, ePRO2CAL also facilitates clinical trials management including creation of electronic clinical trials protocols, tracking progression of clinical trials protocol transition through its development, ethics approval, active etc. to published state. ePRO2CAL connects with disease specific clinical data module or the HIS system for evaluation of patient’s eligibility through inclusion and exclusion criteria. The patient consent process and baseline data are captured prior to final enrolment of the patient to a specific approved protocol. Then, ePRO2CAL provides a complete guided execution of treatment plan and captures all the patient specific data for Labs, Physical Exams, Procedures and Medication (Agent and all supporting medications).
RESULTS

ePRO2CAL is capable of automatic detection and triggering of AE conforming to NCI CTCAE v3.0 specifications. ePRO2CAL allows update of toxicity grades for AE and has a mechanism to set limiting grades for each of these AEs. During the detection of an AE ePRO2CAL highlights the AE based on its seriousness and triggers the reporting mechanism for AE as well as Serious Adverse Events (SAE). ePRO2CAL has complete role-based clinical trials management, with an audit trail feature that captures activities performed by each user. ePRO2CAL is capable of generation of various reports including accruals, adverse events, calendar or therapy, medication forms, discharge medication etc.

CONCLUSION

The purpose of collecting AE is to enable a complete and accurate summarization of AE that can be expected in the target population. The information can also be used to guide the practicing physician in the use of the drug for good medical practice. The goal of obtaining reports of spontaneous events is to detect marked changes in frequency and seriousness of events from what were observed from the trials conducted during the clinical development. Typically the analysis of AE is basically descriptive in nature. Utilization of tools to make the process more defined and standardized will ultimately result in greater opportunity to make adverse events reporting a more standardized methodology. Researchers have indicated that global databases require both good system development methodology and good processes. Researches also note that the main objective of a global clinical system is to shorten the drug development time while improving the quality of clinical data, analysis, summary and reports. It has been stated that the global clinical database and system will achieve the benefits of improved submission, quality, synergy among sites, shared resources among sites, shortened submission preparation time, shortened response time for regulatory agencies and electronic data review internally and by the regulatory agencies. ePRO2CAL was developed under guidelines for a specific disease management globally however its applicability and use in all clinical trials is possible.

ABSTRACT 40

EFFECTIVENESS OF PROTOCOL BCH-98 IN TREATMENT OF CHILDREN WITH ALL

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BACKGROUND

To summarize the efficacy of Protocol BCH-98 in treatment of children with ALL. The protocol was designed according to a rationale that included: reducing chemotherapy intensity in the standard risk group, replacing cranial irradiation with high dose MTX, intensifying and reducing chemotherapy intensity in the early and late stage respectively.

MATERIALS AND METHODS

From February 1998 to April 2003, 428 children with ALL (<15 years old) were treated with the protocol. 235 and 193 patients were classified into standard and high risk groups, respectively. The patients include 287 boys and 141 girls and the gender ratio was 2.04:1 (M:F). The age range was 8 months to 15 years (median was 6.5 years). The diagnoses were made according to bone marrow morphology, cytochemistry, immunophenotyping and cytogenetics. For the standard risk group (SR-ALL), remission was induced with a VDLD regimen, which was followed by consolidation (CAT) and early intensification (VDLD). HD-MTX, 3g/m², 9 times, was used as sanctuary prophylaxis. 2.5 years of continuation therapy included VD/MTX and 6-MP. Every 6 months, the patients would receive delayed intensification (CODD or VM26 plus Ara-C). For the high risk group (HR-ALL), remission was induced with the CVDLP regimen. Consolidation and early intensification comprised VM26 plus Ara-C and VDLD respectively. Sanctuary prophylaxis included 3 times HD-MTX, 18 GY cranial irradiation and VDLD. 3 years of continuation consisted of VD/MTX plus 6-MP, big and
small intensification every 6 months. The patients were followed from February 1998 to November 2005. Follow-up time ranged from 1 month to 7 years.

RESULTS
1. Remission induction: For the SR-ALL group, complete remission rates on day 14, d28 and d33 were 89.3%, 99.1% and 100% respectively. For the HR-ALL group, CR rate at these three time points were 84.7%, 96% and 98.3% respectively. 2. Long-term effectiveness: 5-year EFS of Protocol BCH-98 for all the patients, SR-ALL and HR-ALL were 75.78±2.26%, 80.01±2.81% and 71.18±3.60% respectively. Among the 235 patients in the SR-ALL group, 184 (78.3%), 13 (5.5%) relapsed and 38 (16.2%) died. Among the 193 patients in the HR-ALL group, 130 (67.4%) survived, 28 (14.5%) relapsed and 32 (16.6%) died, the other 3 patients (1.5%) failed to reach CR. Among the relapsed 41 patients (9.6%), 28 (6.5%) and 7 (1.6%) suffered from bone marrow and CNS relapse respectively. 1 patient relapsed in both BM and CNS. Two boys (0.7%) developed testicular relapse, one of them relapsed in BM and testicle. Three patients relapsed and developed ANLL. 70 patients (16.47%) died of side effect of chemotherapy. 29 patients (41.43%) died in the first year of early intensification.

CONCLUSION
The characteristics of Protocol BCH-98 were as follows: reducing the intensity for patients with SR-ALL; reducing the intensity in the early stages (adding the early intensification) and late stage respectively; decreasing the dosage of some drugs with intensive side effects, including anthracycline (dosage decrease from 320 mg/m$^2$ to 240 mg/m$^2$) and CTX (dosage decrease from 6 g/m2 to 1.6 g/m$^2$); increasing the total dose of some drugs including corticosteriod and VCR. The effectiveness of Protocol BCH-98 was satisfactory. Cranial irradiation was replaced with 9 cycles of HD-MTX in all patients with SR-ALL and some with HR-ALL. For the other HR-ALL patients, cranial irradiation and 3 cycles of HD-MTX were used as sanctuary site prophylaxis. CNSL rate and testicle leukemia rate were 1.87% and 0.70% respectively. It indicated that HD-MTX was effective notably in prophylaxis of extramedulla leukemia.

ABSTRACT
Mol

EXPRESSION OF VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) AND ITS RECEPTORS ON CHILDHOOD ACUTE LYMPHOBLASTIC LEUKEMIA

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BACKGROUND
The expression of Vascular Endothelial Growth Factor (VEGF) is associated with the pathogenesis and prognosis of solid tumors, however its relationship to childhood acute leukemia has not yet been identified. This study was conducted to investigate the relationship between differential expression levels of VEGF and its receptors and clinical characteristics of childhood acute lymphoblastic leukemia (ALL).

MATERIALS AND METHODS
The expression of VEGF mRNA and its receptor Flt-1 in bone marrow mononuclear cells was assayed with the reverse transcription-polymerase chain reaction (RT-PCR) in 5 healthy donors and 39 children with newly diagnosed ALL (29 with low risk, 10 with high risk) and 40 with ALL in complete remission (CR). The expression of plasma VEGF protein (pVEGF) was assayed with ELISA in these patients and in 20 healthy donors. The clinical data of all the patients and volunteers enrolled in this study were collected and analyzed according to the expression of VEGF and its receptors.

RESULTS
The mRNA of VEGF and its receptor Flt-1 were not expressed in the healthy children. Whereas the VEGF mRNA and Flt-1 mRNA were expressed in 90% and 86% respectively of the patients with newly diagnosed ALL, which was much higher than that of the patients in CR (30%, p<0.001) and healthy donors (15%,
The pVEGF concentration in newly diagnosed patients with ALL (405±270pg/ml) was also higher than that of the patients in CR (136±98pg/ml; p<0.05) and normal controls (91±41pg/ml; p<0.01), with higher expression levels in the high-risk group (574±208pg/ml) than that of patients in the low-risk group (387±175pg/ml; p<0.05). No significant difference could be found in pVEGF level between the patients in CR and the healthy children.

CONCLUSION
The expression of VEGF mRNA and its receptors may play an important role in the pathogenesis of childhood leukemia. Newly diagnosed patients with ALL, especially those with high-risk disease, had high expression of pVEGF closely associated with a higher tumor burden. Detection of pVEGF might be one of the prognostic predictors for childhood ALL.

ABSTRACT 31
LONG-TERM CURATIVE EFFECTS OF CHILDHOOD HIGH-RISK ACUTE LYMPHOBLASTIC LEUKEMIA AND AGGRESSIVE NON-HODGKIN’S LYMPHOMA TREATED WITH MODIFIED MULTICENTER PROTOCOLS

BACKGROUND
Though in recent years, about 80% of children with acute lymphoblastic leukemia (ALL) survive for more than 6 years, free of disease, there are still about 50% of children with high-risk (HR) ALL and aggressive non-Hodgkin’s lymphoma (NHL) in whom complete remission (CR) cannot be achieved or who relapse whilst on treatment. This study is to investigate the curative effects of more intensive chemotherapy for children with these poor prognoses ALL and NHL.

METHODS
Multicenter protocol-841 (MCP-841) was introduced by the International Network for Cancer Treatment and Research (INCTR) to developing countries in the 1990s. We have replaced cranial irradiation by high-dose Ara-C (HD-AraC) plus high-dose methotrexate (HD-MTX). 82 cases were enrolled in this study, consisting of 61 with newly diagnosed childhood HR-ALL and 21 with stage-IV T cell NHL. This modified MCP-841 protocol included induction therapy with VDLP and HD-AraC based regimen (HD-AraC 2.0g/m², q12h for 2 days; CTX and 6MP) for 3 consecutive courses as intensified therapy following achievement of CR, then COAT (CTX, VCR, Ara-C and 6MP) as consolidation therapy with MP (MTX, 6MP) and VP (VCR, Prednisone) as maintenance therapy. Each course of VDLP, COAT, VA (Ara-C, VP16) and HD-MTX were used sequentially every three months as regular intensive therapy during maintenance. To prevent the side effects associated with chemotherapy, supportive care was given during the therapy.

RESULTS
CR was achieved in ALL after induction therapy with VDLP. Up to now, 65 patients (79.3% ALL 48 and NHL 17) remain in CR, with 41 cases in continuous complete remission (CCR) for more than 3 years. 17 patients relapsed whilst on treatment. 16 patients had been disease free for more than 7 years, 13 for more than 3 years respectively and 12 for more than 5 years. 79.1% are in continuous complete remission for over 6 years. No significant difference could be found in the CCR rate between patients with ALL and NHL in our study. There were no chemotherapy related deaths.

CONCLUSION
This study showed that the modified MCP-841 protocol was very effective for childhood HR-ALL and aggressive NHL, and that a HD-AraC based regimen is especially beneficial to the children with T-cell ALL and NHL. As this protocol was well tolerated and all of the patients in our study were able to complete the treatment, the modified MCP-841 protocol might be worthy of recommendation for wide use in developing countries.
ABSTRACT 32

A STUDY ON THE MECHANISM OF VASCULAR ENDOTHELIAL GROWTH FACTOR INHIBITING LEUKEMIA CELL APOPTOSIS

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OBJECTIVES
Our pre-study results revealed that vascular endothelial growth factor (VEGF) is closely related to the pathogenesis of human leukemia, and may involve the cell apoptosis process. This study was conducted to analyze the expression at the mRNA and protein level of apoptosis-related genes such as anti-apoptosis factors Bcl-2, Mcl-1 and heat shock protein (HSP90) and dynamic changes in the apoptotic process in the human leukemia cell line HL-60, co-cultured with VEGF in vitro.

METHODS
RT-PCR was used to detect the mRNA expression of Bcl-2, Mcl-1 and HSP90 in three groups of the HL-60 cell line co-cultured for 18 hours with either VEGF (2ug/L) or VEGF (2ug/L) plus VP16 (20mg/L) as the experimental group and without VEGF or VP16 as the control group, respectively. Immunocytochemical staining was used to detect the expression of the gene-related proteins Bcl-2 and Mcl-1 in the three groups. The Mcl-1 protein in bone marrow cells was detected in children with newly diagnosed ALL (8 cases), ALL in complete remission (14 cases) and 5 healthy donors.

RESULTS
After co-culture with VEGF for 18 hours, the mRNA expression level of Bcl-2, Mcl-1 and HSP90 in HL-60 cell lines increased more in the experimental group than in the control group (p<0.01). The expression level of Bcl-2 and Mcl-1 protein also increased significantly, much higher than that of the experimental group and the control group (p<0.01). 6 of the 8 cases of newly diagnosed ALL expressed Mcl-1 protein, at much higher levels than those of the ALL patients in complete remission (7.14%, 1/14 cases, p<0.01). No Mcl-1 protein was detected in the normal donors.

CONCLUSION
VEGF plays an important role in the pathogenesis of human leukemia through increasing the expression of the anti-apoptotic factors Bcl-2, Mcl-1 and HSP90 and by reducing the apoptosis of leukemia cells. The expression of VEGF, Bcl-2, Mcl-1 and HSP90 might be a prognostic predictor for childhood leukemia.

ABSTRACT 33

CLINICAL STUDY ON THE PHARMACOKINETIC CHANGES IN PLASMA AND CEREBROSPINAL FLUID DRUG LEVELS DURING HIGH-DOSE CYTOSINE ARABINOSIDE TREATMENT FOR CHILDHOOD ALL AND NHL

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OBJECTIVE
To study the pharmacokinetic changes in cytosine arabinoside (Ara-C) levels in plasma and cerebrospinal fluid (CSF) in childhood acute lymphoblastic leukemia (ALL) and aggressive non-Hodgkin’s lymphoma (NHL)
treated with high-dose Ara-C (HD-Ara-C) and standard dose Ara-C (SD-Ara-C), and to determine the value of HD-Ara-C in the treatment of childhood hematological malignancies.

METHODS
A high pressure liquid chromatography (HPLC) method was set up in order to study the pharmacokinetic changes of Ara-C in plasma and CSF collected from patients who were receiving HD-Ara-C (2.0g/m²) given by continuous infusion for 2 hours or SD-AraC (75mg/m²) given by subcutaneous injection according to designated protocols. Ten blood samples were collected respectively at 0, 15, 30, 60, 90 and 120 minutes during infusion and 5, 10, 30 and 120 minutes after infusion. Blood samples from patients who were receiving SD-Ara-C were collected at 60 minutes after subcutaneous injection. CSF was collected after the HD-Ara-C infusion finished, when the Ara-C level in CSF approached the peak level. The standard samples were purchased from SIGMA Company.

RESULTS
The mean plasma peak levels of Ara-C and Ara-U in the HD-Ara-C treatment group were 49.94±26.03µmol/L and 162.10±108.06µmol/L, ie about fifty times and twenty five times higher than the levels (1.07±0.24µmol/L and 6.81±1.92µmol/L) with SD-Ara-C treatment. The mean CSF levels of Ara-C and Ara-U in HD-Ara C treatment group were 5.93±4.01µmol/L and 20.98±10.41µmol/L respectively, accounting for about 12.5 percent of the plasma. In addition, our results showed that the mean peak level of Ara-U was much higher than that of Ara-C, and there was significant individualized difference in peak drug levels in plasma and CSF.

DISCUSSION
The drug level in plasma was significantly higher in the HD-Ara-C group resulting in a higher level in the CSF. Since high levels of Ara-U could enhance the cell toxicity effects of Ara-C via stopping leukemia cells in the S stage of the cell-cycle, this may be the pharmacokinetic basis of the better outcomes obtained in clinical treatment. Considering the different metabolism in different patients, further study on the pharmacokinetic features, such as Ara-C related kinases' (DCK and CDA) activities and their gene expression, might provide the basis for individualized treatment in the future.

ABSTRACT 77
PEDIATRIC HODGKIN’S DISEASE: COMPARISON OF TWO PERIODS BY MEANS OF CLINICAL FINDINGS AND VIRAL STUDIES

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BACKGROUND
In developing countries, the epidemiologic, clinical and histopathologic features of pediatric Hodgkin’s disease (HD) show considerable differences from those of developed countries. As has been described by Correa and O’Connor, type I epidemiologic pattern with the high incidence of mixed cellularity and lymphocyte depletion histopathology is common in third world countries.

MATERIALS AND METHODS
The charts of 175 children with newly diagnosed Hodgkin’s disease, who were treated in Ankara University Department of Pediatric Hematology-Oncology between 1964 and 1994 were retrospectively analyzed. This was referred to the as first period, which was compared with the clinico-epidemiologic findings in 27 HD patients who were treated between 1997 and 2006, namely the second period.
RESULTS
According to this retrospective analysis, in the first period the majority of patients (80%) were in the first decade of their lives with male sex predominance. When clinical staging (CS) was performed 15.6% of them were found to have CS I, 19.1% had CS II and 65.3% were found have advanced stage disease, with CS III (15.6%) and IV (49.7%). When compared with the second period, the male predominance, young age (<10 yrs) at initial presentation and the distribution of early stages remained the same, i.e., 14.8% of the cases had CS I, and 25.9% CS II, however, the distribution of advanced stage disease have changed in favor of CSIII (51.8%) with a significant decrease in CS IV (7.4%). Although the distribution of histopathologic subtypes did not show any significant change between the two periods, with the mixed cellularity (MC) subtype being the most common, we noticed a slight change reflected as a decrease in the lymphocyte predominate (LP) subtype and an increase in nodular sclerosing (NS) histopathology respectively. The distribution of histopathological subtypes were as follows: Between 1964 and 1994 - LP 18.7%, NS 16.85%, MC 60.6%; Between 1997 and 2006 LP 7.4%, NS 25.9% and MC 59.2%. Epstein-Barr virus studies (which have been carried out in HD patients since 1985) showed high seropositivity (94%) in those patients. In the second period, in 27 cases, in addition to serologic studies, EBV-related LMP1 was found to be positive in 14 out of 15 (93.3%) tumor tissue samples.

CONCLUSION
The change in distribution of advanced stage disease in favor of CSIII, with a significant decrease in CS IV might be due to the improvements in health services and possible changes in environmental and socioeconomic conditions in recent years. The tendency for an increase in the frequency of NS histopathology may also reflect the characteristics of a more industrialized society. The high frequency of EBV association with HD was shown both by serologic and immunocytochemical methods. On the other hand, with the use of modified ‘OPPA/COPP’ chemotherapy and involved field radiotherapy in HD patients in our center, since 1984, >90% of our patients have exceeded 5 years overall survival. We suggest that the association of EBV infection does not have a major impact on the prognosis of children with HD.

ABSTRACT 51
HISTOLOGICAL VARIANTS OF SOFT TISSUES SARCOMAS IN CHILDREN: 18 CASES

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BACKGROUND
Soft tissues sarcomas represent 7% of all malignant tumors in children. Rhabdomyosarcoma accounts for 45-50% of all soft tissue sarcomas and 50-65% of rhabdomyosarcomas in children have features of the embryonal subtype. Different grading systems are used, the French FNCLCC is the most often used in French speaking countries.

MATERIALS AND METHODS
This is a retrospective study from 2000 to 2005. Eighteen cases of Soft tissues sarcomas in children were diagnosed in our Department. Slides were stained by Hematoxylin-Eosin and immunohistochemistry study was conducted for all the cases.

RESULTS
The age of patients ranged from 14 days to 17 years (mean age: 7.5 years) with 7 girls and 11 boys. Anatomic sites involved were: lower extremities in 8 cases, trunk (particularly the chest wall and back) in 3 cases, head in 3 cases, upper extremities in 2 cases and pelvis in 2 cases. The majority of cases was diagnosed as rhabdomyosarcoma (11 cases), embryonal subtype in 5 cases. Synovialosarcoma was reported in 4 cases. The other histological types included primitive neuroectodermal tumor (extra-osseous PNET) in one case, malignant peripheral nerve sheath tumor (MPNST) in 2 cases.

CONCLUSION
Our objectives were to assess the epidemiology of pediatric soft tissue sarcomas in our Department and to highlight diagnostic difficulties encountered in this rare conditions.
ABSTRACT 52

LANGERHANS CELL HISTIOCYTOSIS: 7 CASES

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BACKGROUND
Langerhans cell histiocytosis is a rare disease, corresponding to a proliferation of the Langerhans cell. It presents as 3 entities: solitary eosinophilic granuloma, Hand-Schuller-Christian Disease and Letterer-Siwe Disease, according to its location and involvement of one or more anatomical systems. Most cases occur in childhood and in males. Bones are the most frequent site involved whereas Langerhans cell histiocytosis may appear in almost any location. Histological features are the characteristic proliferation of Langerhans cells associated with neutrophils, eosinophils and even giant cells. The Langerhans cell histiocytosis, usually, express the CD1a and the S 100 protein, as does the normal Langerhans cell) and weakly express CD68. The prognosis is related to the sites involved and their number.

MATERIALS AND METHODS
This is a retrospective study from 2002 to 2005. Seven cases of Langerhans cell histiocytosis were diagnosed in our department. Slides were stained by Hematoxylin-Eosin and immunohistochemistry was performed for all the cases.

RESULTS
The mean age was 3.2 years with a sex ratio of 0.75. The anatomic site involved was lymph nodes in 3 cases (associated with liver and spleen involvement in 1 case), bones in three cases and skin in one case. Immunohistochemistry study showed positivity for CD1a in all cases, to confirm the diagnosis suspected on morphology.

CONCLUSION
Our purpose through this study is to emphasize the anatomic and morphological characteristics of this uncommon disease and to stress the contribution of Immunohistochemistry to its diagnosis.

ABSTRACT 11

ADJUVANT CHEMOTHERAPY USING CISPLATIN, 5-FLUOROURACIL (5-FU) PLUS LEUCOVORIN (LV) FOR ESOPHAGEAL CANCER: A CASE-MATCHED COHORT STUDY IN EAST CHINA

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BACKGROUND
In western countries, pre-operative chemotherapy and chemoradiation therapy have been widely studied and applied, though treatment-related mortality is possibly increased compared with surgery alone. So in eastern countries, including Japan and China, many physicians prefer to delay the administration of chemotherapy or chemoradiation therapy till after the operation is performed. It is still controversial whether adjuvant chemotherapy with cisplatin, 5-Fluorouracil plus leucovorin can increase the overall survival of esophageal cancer patients, and which subgroup of patients can gain most benefit from it. In this study, we evaluated the value of adjuvant chemotherapy in esophageal cancer. Protein expression of different molecular makers was also studied for their prognostic and predictive values.
PATIENTS AND METHODS
Between 1998 and 2004, 45 esophageal cancer patients who received adjuvant chemotherapy, and 90 well-matched patients who did not receive chemotherapy were included in this study. Most of the patients underwent transthoracic esophagectomy with three-field lymphadenectomy. To analyze the prognostic and predictive significance for molecular markers, nine markers were measured at the protein level by immunohistochemical staining.

RESULTS
For the whole group, neither adjuvant chemotherapy nor radiation therapy improved the disease-free survival (DFS) or overall survival (OS). There was no significant difference in survival in stage I (P=0.59 & 0.59), stage II (P=0.28 & 0.28) and for stage III patients (P=0.69 & 0.87) between the observation group and the chemotherapy group. Chemotherapy was most effective for the patients who had metastases in cervical and/or celiac lymph node (IVa subgroup); 1 and 3-year DFS and OS are significantly better than in those who did not receive the chemotherapy (P= 0.04, and 0.01, respectively). Among the factors evaluated, Bcl-2 expression was an adverse prognostic factor, and was more predictive in the adjuvant chemotherapy group than in the no chemotherapy group.

CONCLUSION
Adjuvant chemotherapy was most effective for the patients who had metastases in the cervical and/or celiac lymph nodes. Bcl-2 could potentially be used to analyze the prognosis and to guide the adjuvant treatment. Although this is a retrospective study, it is of some help for daily practice, especially since there are few papers published regarding the adjuvant chemotherapy of esophageal cancer, which is one of the commonest diseases in China.

ABSTRACT 39
QUALITATIVE RESEARCH ON THE PSYCHOLOGICAL EXPERIENCE OF MOTHERS WITH LEUKEMIA

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OBJECTIVE
To understand the emotional feeling of mothers who had children with leukemia and to provide proper psychological support by medical professionals.

METHODS
16 mothers of children with leukemia were interviewed with open-ended questions. The data collected from the interviews were analyzed thematically.

RESULTS
These mothers had significant distress reaction and financial burden. The shock of initial diagnosis, persistent distress during treatment, and feelings of hopelessness for their children's future were found in the study. The sources of support include mother's unconditional love, husband, family and other parents in the same situation.

CONCLUSION
Psychological intervention and emotional support are needed for mothers with leukemic children. Medical professionals should consider the personal diversity among mothers and help them to cope with the life-threatening illness and to improve their quality of life.

KEYWORDS
Leukemia, Childhood; Mother; psychology; research, qualitative

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