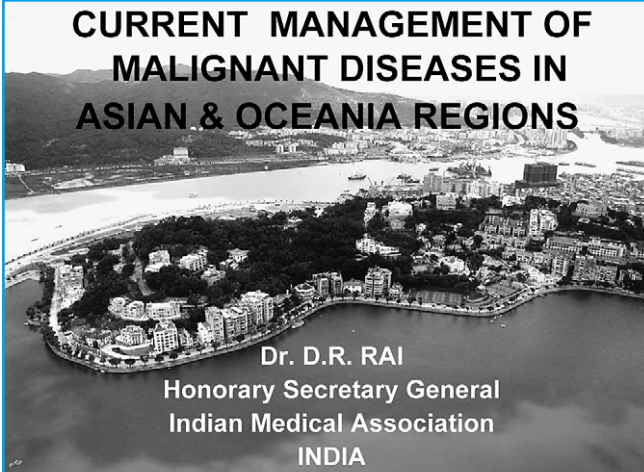


[India]

# Current Management of Malignant Diseases in Asian and Oceania Regions

D.R. RAI\*1

**CURRENT MANAGEMENT OF MALIGNANT DISEASES IN ASIAN & OCEANIA REGIONS**



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Indian Medical Association  
INDIA

**AGENDA**

- CANCER BURDEN
- INDIAN DATA
- WHAT WE HAVE? (Facilities, Manpower)
- WHAT IS REQUIRED?
- THE MISMATCH
- NEED OF THE HOUR?

**INCIDENCE OF CANCER**

- 10 million new cases in world
- 1 million cases in India (Incidence)
- 1/8 deaths each year attributable to cancer
- More than 40% deaths are attributable to tobacco.

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By 2030

- *World cases (Incidence) - 27 million*
- *India cases (Incidence) - 16 million*

In India 8 lakh deaths from smoking related diseases

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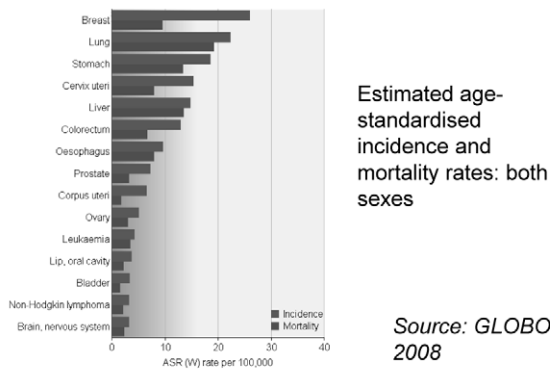
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No. of deaths - 2,792

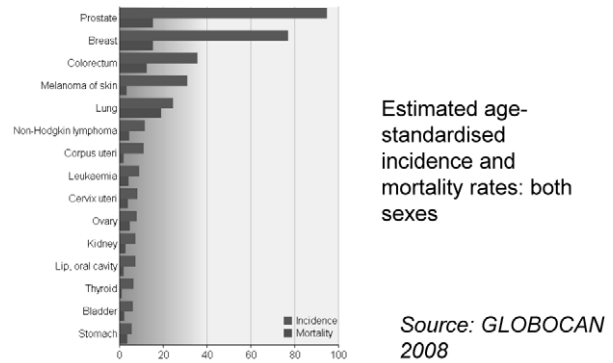
1 TOBACCO RELATED DEATH EVERY 6 SECONDS

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### Epidemiology - ASIA

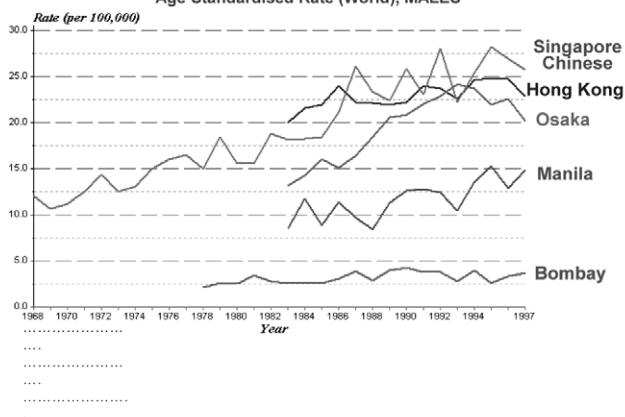


### Epidemiology - OCEANIA

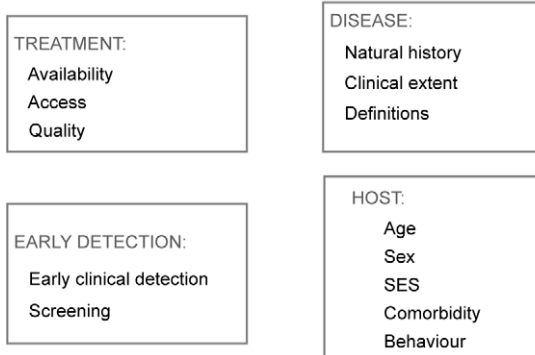


### Trends in Colon Cancer Incidence: ASIA

Age Standardised Rate (World), MALES



### FACTORS INFLUENCING SURVIVAL FROM CANCER



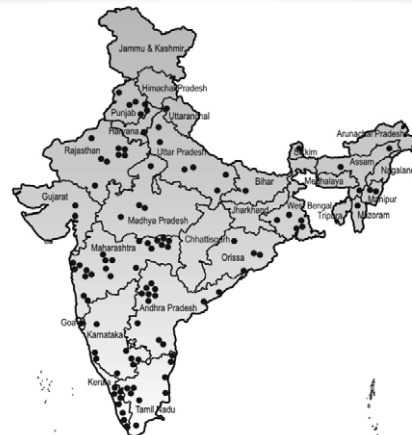
### EVALUATING CLINICAL CARE

Patterns of clinical care

- Place of treatment
- Percent treated by "specialists"
- Percent of cases with adequate staging
- Percentage on treatment protocols
- Delay (diagnosis-treatment)

### THE INDIAN CANCER ATLAS

Using pathology-based data to obtain clues about geography of cancer



### Key points

- Incidence is increasing while mortality is constant or declining.
- Progress in medical treatments has meant that cancer is becoming a chronic condition, incurable but treatable.

### Cancer in Developing Countries The Size of the Problem

- The incidence of cancer is lower in countries at a lower level of economic development, but they account for more than half of global cancer and a higher fraction of patients die
- 13% of total deaths are from cancer
- 62% deaths in developing countries (2007)

### A Neglected Health Problem in Low Income Countries

- Cancer causes more deaths globally than AIDS, malaria and TB combined
- In 2002, >50% of the 11 million estimated patients with cancer and 70% of cancer deaths were in developing countries, which have perhaps 5-10% of global resources
- Developing countries will account for an ever increasing fraction of the global cancer burden
- The WHA has approved a resolution (May 2005) recommending that countries develop and implement cancer control plans

### Rich vs Poor

- Cancer services are limited and already overwhelmed in developing countries in spite of relatively low cancer burden
- The cancer burden will increase markedly in the next decades (150m 2000-2020)
- Building human capital is a priority, but obstacles include pool of teachers, losses of personnel to better circumstances (internal or external)
- Material shortages – facilities, equipment, drugs etc. – and poorly structured health services compound the problem
- Poverty, illiteracy, stigmata, traditional healers create additional obstacles to care

In Asia - RT machine available but 23% of the needed.  
Europe has 11 times the number of nurses compared to Asia.


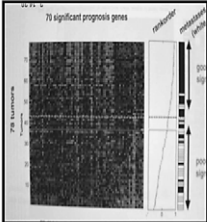

### Limitations in Resources for Radiotherapy

- In Dec 2004, there were approximately 2,500 radiotherapy centers and 3,700 machines for cancer therapy in the developing world (enough for 1.85 million patients per year compared to 3 million who need it).
- Maldistribution worsens the situation: many countries have one machine for millions of patients (1 per 250,000 in high income countries). Over 20 countries – mostly African - have none (IAEA).
- Many existing machines are idle for lack of maintenance, expired sources or lack of radiotherapists or physicists
- Old cobalt sources require longer radiation times

- Inequities between countries in the uptake and use of CT drugs
- Morphine consumption in Canada 64 mg/capita
- 0.001 mg/capita in Mozambique.

	PAST	PRESENT
Diagnostic	X-Rays	CT/MRI
Therapeutic	Surgery / RT	Combined Modality
Technique	Mutilating Surgery  Cobalt R.T.	- Organ Preserving Surgery - Reconstruction - Robotic Surgery 3D CRT./IMRT.
Outcome	Poor	- Q.O.L - Cure in ALL, GCT, Paediatric

### FUTURE

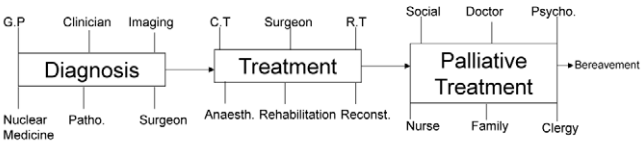
Prognostication/Predict sensitivity to therapy cDNA arrays including 2,000-3,000 genes are being used to develop gene expression profiles and correlate them with treatment outcome (microarray gene chip is evolving technology).

### SHIFTING PARADIGM

- Complex specialty demanding expertise in various disciplines and exposure to many allied specialties (Multimodal)
- Emphasis on combined modality approach
  - Organ preservation
  - Functional aspect of oncology (QOL)
- Personalized Care


### WHAT IS MULTIMODAL?

Total care of patient by combining various methods of treatment by multi - professional team with intent of cure or palliation.



**Patient in decision making team**

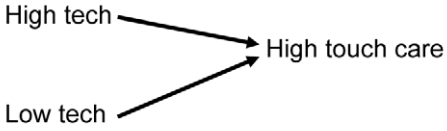
### TEAM WORK



**We work like symphony; each instrument played harmoniously rather than all on the same note or with abandon and cacophony.**

### WHY ONCOLOGY SPECIALTY?

- There were lots of people in charge of different parts of Jack's body, but no one was in charge of Jack



***Surgeon is a Prognostic factor***

***Decision Making Important***

### ROLE OF GENERAL PRACTITIONER

- Suspect cancer – cough, anorexia, hoarseness, constipation, weight loss, fatigue, fever for > 2 wks
- Investigation / Refer on suspicion
- Decision making
- Screening / follow up
- Palliation

- Histories that are given are less valuable than histories that are taken
- No universal blood or urine test exists that can diagnose asymptomatic cancer

### STATUS OF TUMOR BOARD

- T.B. serves the purpose of institutionalizing a forum for discussion to diminish the impact of bias and prior anecdotal experience.
- 4,000 man hours/year
- Evidence based team work

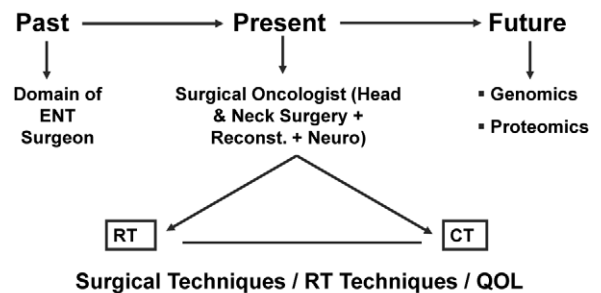
Follow Protocols which are evidence based. **They should shed more light on problem, rather than more heat.**



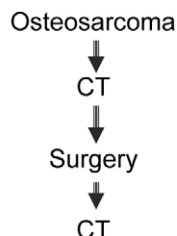
### Increasing Role of Surgery !

- Prevention of cancer – Polyposis coli, MEN
- Diagnosis
- Treatment (primary / residual / recur.)
- Metastatectomy
- Emergencies – Bleeding, perf.
- Palliation – SAIO
- Reconstruction, Rehabilitation

### HEAD & NECK SURGERY



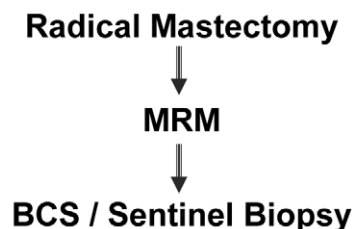
### LIMB PRESERVING SURGERY



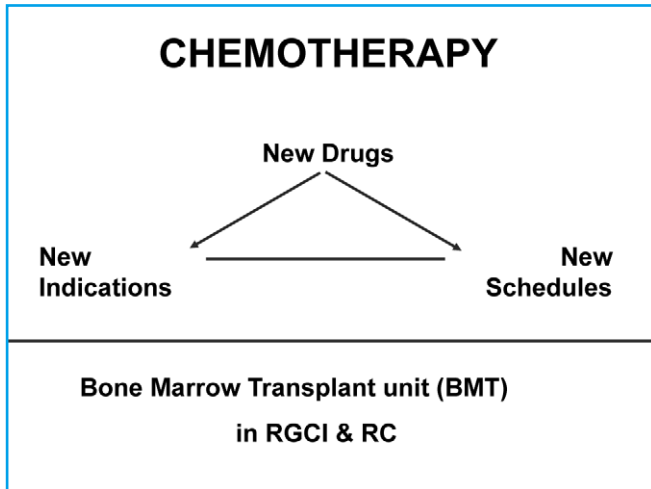
Not followed → Cade's regime → RT → Surgery

**SAVE LIMB !!**

### BREAST



**SCREEN DETECTED EARLY LESIONS**



- ### FUTURE
1. Screen Detection
  2. Molecular Credentialing
  3. **Robotic Surgery**
  4. Gene Therapy
  5. Targeted Therapy
  6. Vaccines
  7. Navigational systems and Image guided surgical assistants.
- 
- Personalized Medicine

### OUTCOME OF CANCER SERVICES IN DEVELOPING COUNTRIES

5 yr Overall Survival. for low income countries is less than half that is seen in more developed countries.

Low survival

- Poor resource availability
- Inaccessibility
- Poor quality of treatment
- Late detection

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- Most cost effective measures are imp. consideration.
- QOL, pt. satisfaction, economic efficiency are not measured.

### Regional Cancer Research and Treatment Centers In India

There are 25 regional cancer research centres in India at present. Their main functions are: Cancer Detection and Diagnosis, Provision of Therapy, after care and rehabilitation, Education and Training, Cancer Registration and Research. Coordination with the medical colleges and the general health infrastructure is the essential feature. The core requirements of a Regional Cancer Centre are divisions of surgical oncology, radiation oncology, and medical oncology with support from department of anesthesiology, pathology, cytopathology, hematology, biochemistry and radiodiagnosis with appropriate equipment and staff.

NCCP, India  
<http://www.nihfw.org/NDC/DocumentationServices/NationalHealthProgramme/NATIONALCANCERCONTROLPROGRAMME.html>

### WHAT IS MISSING?

With 25 regional cancer centres, an estimated 50-odd private tertiary care cancer hospitals in the country and another 100 smaller hospitals offering cancer care, this is a significant upgrade from cancer treatment infrastructure in India barely 10 years ago. But the gap hasn't exactly narrowed.

**No registry:** No compulsory registration of cancer patients, so no clear data on the magnitude or the different patterns of the disease.

**No National guidelines:** While the established centres follow international guidelines such as those of the European Society for Medical Oncology, the lack of national guidelines affects smaller centres and they often do not follow basic protocols.

**No tumor boards:** In India, the idea of tumour boards is in its nascent stage.

- ### WHAT IS MISSING?
- **Diagnosis poor:** Advanced diagnostics such as molecular and genetic tests are rarely available and when available, are exorbitantly priced. Molecular and genetic studies also help doctors decide if the patient needs targeted therapy, which could even mean freedom from chemotherapy. Without easy access to such advanced technology, patients in India are left to choose the diagnostics they can afford.
  - **Lack of specialization:** Few doctors and oncology centers with organ-specific specialization. Level of specialization is restricted to PG degrees in branches of oncology, without organ-specific training.

### NEED OF THE HOUR?

- 1) **Resources** - Pvt. Sector, NGO's entering in Cancer care
  - India needs 1,400 machine of RT as opposed to available 350.
  - General Surgeons vs Oncologists (Training)
  - Better Diagnostic facilities
- 2) **Organized Pop. based screening programs.**
  - NCCP now focusing on awareness and early detection
  - Low cost screening being evaluated/oral screening in Kerala, cervical screening in Mumbai
- 3) **Cost of treatment** - Control by Govt.
- 4) **Availability of Morphine**
  - Public health oriented Research needed
- 5) **Sustainability**
  - Insurance scheme (RCC Trivandrum, Rajiv Gandhi Cancer Institute & Research Center, Delhi)
- 6) **Monitoring** - Evaluation required. (Hard core data)

