

Cancer in India

Projections for 2015-2020

- Doubling of the cancer incidence in next 15 years (WHO)
- Ageing population with consequent increase in cancer incidence & prevalence (WHO; ICMR; NCRP)
- Shortage of RT infrastructure (equipment and human resource) to meet recommended norms (IAEA; WHO)

SWOT analysis for Radiation Oncology in India

Strengths:

- ✓ Cost-effective treatment modality
- ✓ High level of technical accuracy

Weaknesses/Limitations:

- Huge shortage of infrastructure
- Disparity in geographic distribution

Opportunities:

- ✚ Model for multi-disciplinary approach
- ✚ Improvement in cancer outcomes

Threats:

- ❖ Market-driven as opposed to need/evidence based

3

Accelerators in India: April 2007

	Machines	Total	Varian	Siemens	Elekta	Tomo.
	Existing	84	27	39	18	-
	With MLC	38	14	17	07	
	Total expected 2007	131	45	56	29	1
	Total expected to do 3D-CRT	85	32	34	18	1

4

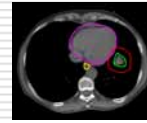
Elements of 3DCRT



Immobilize and mark patient for reproducibility



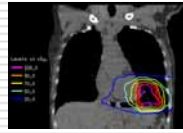
3D Imaging in Tx Position



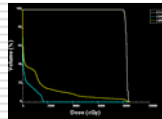
Contour target & risk Organs



Virtual Simulation



3D Dose calculation/display



DoseVolumeHistogram

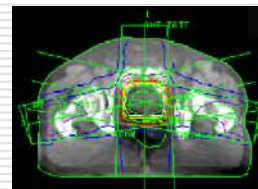


Treatment

5

3D Conformal Radiotherapy (3D CRT)

- Large body of evidence including prospective and randomised data
- Prostate, head and neck cancers, GI cancers, paediatric malignancies
- reduction of side effects
- dose escalation and improved local control
- Chemotherapy can be combined concurrently
- has already become the standard treatment in majority of the centres



6

Plan for RAS/6/048

- ☐ Identify Team Members from India
 - Team of Radiation Oncologist, Medical Physicist, Technologist & National RCA Representative
- ☐ Draft National Work Plan for RAS6048
 - To educate and strengthen the process of 3D-CRT
 - To review and assess self and colleagues
 - To audit the whole process at regular interval at local level
- ☐ To be ready for Teaching Programmes
 - Expert mission and RTCs
- ☐ Conduct Seminars/Lectures etc. as a part of National Training Programmes
 - To keep 3D-CRT as theme to conduct workshops / seminars / conference with help of local agencies and as deemed with IAEA