IAEA Scientific Forum
CANCER in Developing Countries
Facing the Challenge
Vienna, 21-22 September 2010

Session IV
IAEA’s Role in the Fight against Cancer in the Developing Countries
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Comments/Recommendations

- Recycling of equipment (radiotherapy, radiology,..)
  - Eg. KFSH&RC → CT’s, TeleCobalt unit; Varian 600C linac; 2 more Varian linacs (2300C/D & 2300EX); NGH: 2 linacs; KSU: TeleCobalt

- PACT and Regional Agreements
  - Sharing experiences, guidelines, …

- Oncology Centers of Excellence: “developed centers within developing countries”
  - Availability of advanced equipment and techniques as well as qualified staff
  - Proximity to other neighboring developing countries or oncology centers
Saudi Arabia

- Population ~30 Million
- 25 Cancer Centers
- 13 Radiotherapy Centers (+ 5 planned)
- Launched Saudi Cancer Registry
- Professional Societies:
  - Saudi Oncology Society (SOS)
  - Saudi Medical Physics Society (SAMPS)
Example of a developed center within a developing country/region
King Faisal Specialist Hospital & Research Centre (KFSH&RC)

- Leading cancer center in the region
- 3000 new cancer patients per year
- It has all cancer treatments: palliative to BMT; 3D to IMRT and IGRT.
- Qualified staff (oncologists, medical physicists, radiologists, technologists, ...)
- Radiation Oncology services started in 1976, 1st in the region
- Advanced diagnostic and treatment machines (PET/CT, SPECT, CyberKnife, TomoTherapy, RapidArc, ...)

The hospital is a leading cancer center in the region, treating 3000 new cancer patients annually, offering all types of cancer treatments from palliative to bone marrow transplantation (BMT), with 3D to intensity-modulated radiation therapy (IMRT) and image-guided radiation therapy (IGRT). The hospital is staffed with qualified specialists in oncology, medical physics, radiology, and technology. Radiation oncology services began in 1976, making it the first in the region. The hospital is equipped with advanced diagnostic and treatment machines including PET/CT, SPECT, CyberKnife, TomoTherapy, and RapidArc.
“Historic Event @ KFSH&RC”

Inauguration: March 2009
Treatment: May 2009
IAEA/KFSH&RC joint activities

- KFSH&RC has collaborated with the IAEA in various activities to develop national capacity in cancer treatment and diagnosis within Saudi Arabia and in other neighboring developing countries in the field of radiotherapy, nuclear medicine, quality assurance, medical physics and other related fields.
Planned IAEA/ARASIA
Regional Pilot
Clinical Residency Training
Program

IAEA
ARASIA States
KFSH&RC
Al-Faisal University
Professional Societies
Radiotherapy Vendors
INTERNATIONAL CONFERENCE ON RADIATION MEDICINE

CLINICAL APPLICATIONS AND INNOVATIVE APPROACHES

King Faisal Specialist Hospital & Research Centre, Riyadh, Saudi Arabia

March 14, 2018

INTERNATIONAL SPEAKERS

www.radmed.org

MAJOR THEMES

Radiation Oncology
Diagnostic Imaging
Radiobiology and Radiation Protection
Emerging and Other Topics

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IAEA/KFSH&RC joint activities

- Training of fellows from other developing countries
- Establishment of King Abdullah Oncology Center and Proton Carbon Ion Therapy facility
- Provision of SSDL and TLD services to the Kingdom and some neighboring countries
- Establishment of IAEA QUATRO & QUATRIL activities in the Kingdom
- Contribution to various IAEA expert panels and missions, e.g., IAEA Comparative Assessment of Nuclear Technologies
Comments/Recommendations

- Guidance for Radiotherapy Techniques and Machines
  - Cobalt vs. Linacs debate
    - Initial and Operational Costs; Preventive Maintenance; Power requirements/stability; Reliability and Quality of treatment (conformity...); Staffing/Expert requirements; Patient workload; Safety & Security Issues; ...
  - No one single answer, but “Guidelines”
  - Simple single-energy linac or Advanced TeleCobalt Unit

- Tender Specs and Maintenance Contracts
  - Developing countries installed but not used RT equipment for years (Eg. African Country: LDR Brachytherapy Unit and RT Simulator—not used for 6 years)