

house radiotherapy dosimeter.

All respondents of the survey consider the national quality audit activity important in improving the quality of radiotherapy healthcare. They support its continued implementation and find the activity relevant to the current Philippine situation. Almost 50% of the respondents recommended annual frequency of on-site visits.

The study recommended the continued implementation of the national quality audit program for radiotherapy. It shall be improved based on the results of the evaluation and may be expanded to include other areas to be audited, giving due consideration to the budgetary requirements for additional manpower and instrumentation. A local system for remote audit using TLDs shall be developed and established to decrease the overall cost of the program implementation.

Key words: quality audit, radiotherapy

Sym-1-2

A pilot study to test the use of TLDs for quality audit in non-reference conditions

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As a member of IAEA/WHO's network of Secondary Standards Laboratories (SSDL) SSDL, BARC has been conducting external quality audit programme since 1979 with a view to ascertain the status of Dosimetry in reference conditions at the radiotherapy centres in the country. Studies conducted by various audit groups at international level have found that the many radiotherapy centres who had produced audit results well within the acceptable limits in reference conditions could not maintain the similar level of accuracy for non-reference conditions relevant to clinical irradiation geometries. IAEA/WHO in view of this with an intent to use TLDs for quality audits in non-reference conditions has initiated a coordinated research project to evaluate the feasibility of the same. The data generated by the participant external Audit Groups (EAGs) will form the basis of future quality audit programme in non-reference conditions. The programme was planned to be carried out in three steps viz. (1) measurements in reference conditions (2) Measurement of the effect of field size, depth dose and wedge factor (3) Off axis measurements and wedge factor. The step (1) has been

completed already and implemented also. IAEA/WHO has entrusted various EAGs to conduct experiments and generate data from ^{60}Co and other high-energy photon and electron beams from Linacs for the step (2) and (3). SSDL, BARC as a part of the project has conducted pilot studies for step (2) and (3) involving ^{60}Co beams. The paper gives the details of parameters studied and the results obtained from this study.

Sym-1-3

Developing postal dose audit system in Japan

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The more radiation therapy technology developed, the more the quality control becomes important for the safe and effective cancer therapy. Unfortunately, in Japan, several radiotherapeutic accidents occurred within a few years. The accidents were mainly due to the shortage in knowledge to use recent technique such as treatment planning system. In Asia, especially in Japan, although the technique or modality has advanced, the QA/QC system fails to advance simultaneously. The number of facilities of radiation treatment is up to 700 in Japan. Postal dose audit system is the most powerful way to check the quality of those facilities. We would like to report the audit system which is going to be established in NIRS. The glass dosimeter (GDR, Chiyoda technol Co.) and tough water phantom (Kyoto-kagaku Co.) are used for the dosimetric survey. GRD is a radiation-induced photoluminescence (RPL) detector. We adopted the detector because of the fine accuracy, less fading and the small size (1.5mm x 12mm) enough to have little effect of field flatness.

The methods is as follows.

1. A postal set of 30x30 tough water phantom and pieces which contain 3 glass elements are sent to a radiation therapy facility.
2. The facility staff are ordered to irradiate 1 Gy to the piece which contains glass elements under the condition of 10 cm depth in tough water phantom. 2 pieces are irradiated in one energy beam (6 elements for one energy beam).
3. Postal set are sent back to the NIRS and the data are read for analysis.

Both standard glass elements and background glass elements are also contained to the postal set. Standard elements are irradiated 1 Gy at NIRS and used for UV-ray calibration on glass dosimeter readout. Background elements are used to check the any unexpected irradiation done during the postal or facility irradiation process.

We made simulation tests of postal survey at NIRS using linac (6MV and 10MV) and Co-60 machines. Irradiation and analysis were done using the same way as postal survey. We got fine