EXPERIENCES OF CLINICAL AUDIT IN A FINNISH RADIOTHERAPY DEPARTMENT

PIRKANMAA HOSPITAL DISTRICT

Simo Hyödynmaa and Tuija Wigren

Department of Radiation Therapy, Tampere University Hospital, Tampere, FINLAND

The clinical audit of the radiation therapy department of Tampere University Hospital in Finland (with four linear accelerators, one brachytherapy afterloading unit and a simulator) was carried out in June 2005 by a group of three experts (one oncologist, one physicist and one RT technician). The audit comprised the evaluation of pre-sent document information (quality manual, radiation user's organization etc.) and a subsequent three-day site visit by the group. During the visit selected oncologists and radiation workers were interviewed, samples of medical records were analysed, and instructions and documentation were reviewed. The accuracy of dosimetry was not included in the audit, since it is covered by the audits of the national Radiation and Nuclear Safety Authority.

Audit results

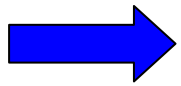
The written report of the audit comprised the findings, observed deficiencies and suggested points of improvement. Also a summary feedback meeting was arranged at the end of the audit.

Out of 51 audited topics only 2 produced a deficiency. In addition to these, 10 remarks for improvement were recorded. Two topics produced especially positive comments:

-the internal auditing was found to be thorough and of good quality, and

-the documentation of the indications for justification of the therapy in the medical records, and the documentation of the dose delivery to the patient were excellent .

In two samples of 10 breast cancer patients each, with 24 evaluated items, the proportion of documentation that was judged to be complete was 97.9%. See details on the right



Oncologist auditor's review of the samples of patient records

Breast cancer:
Information for justification & treatment decision

Recorded information	1	2	3	4	5	6	7	8	9	10	OK(+)%
Age, ID	+	+	+	+	+	+	+	+	+	+	*100*
Family history	–	–	+	+	+	+	+	+	+	+	*80*
Laterality	+	+	+	+	+	+	+	+	+	+	*100*
Location (quadr.)	+	+	+	+	+	+	+	+	+	+	*100*
Operation	+	+	+	+	+	+	+	+	+	+	*100*
Axillary procedure	+	+	+	+	+	+	+	+	+	+	*100*
Clinical Stage	+	+	+	+	+	+	+	+	+	+	*100*
Pathol. Stage	+	+	+	+	+	+	+	+	+	+	*100*
Pathol. type	+	+	+	+	+	+	+	+	+	+	*100*
Pathol. Grade	+	+	+	+	+	+	+	+	+	+	*100*
Pathol. Tumor size	+	+	+	+	+	+	+	+	+	+	*100*
Oper. margin	+	+	+	+	+	+	+	+	+	+	*100*
Estrogen receptors	+	+	+	+	+	+	+	–	+	+	*90*
Progesteron receptors	+	+	+	+	+	+	+	–	+	+	*90*
Her2neu-receptors	+	+	+	+	+	+	+	–	+	+	*90*

Oncologist auditor's review of the samples of patient records

Summary of the therapy

Recorded information	1	2	3	4	5	6	7	8	9	10	OK(+) %
RT technique	+	+	+	+	+	+	+	+	+	+	*100*
RT duration	+	+	+	+	+	+	+	+	+	+	*100*
RT fractionation	+	+	+	+	+	−	+	−	+	+	*80*
Total dose	+	+	+	+	+	+	+	+	+	+	*100*
Target volumes	+	+	+	+	+	+	+	+	+	+	*100*
Boost therapy	+	+	+	+	+	+	+	+	+	+	*100*
Acute complications	+	+	+	+	+	−	+	+	+	+	*90*
Hormonal therapy	+	+	+	+	+	+	+	+	+	+	*100*
Chemotherapy	+	+	+	+	+	+	+	+	+	+	*100*

+ = records complete - = crucial information missing

Samples of other findings and deficiencies

Informing on the implementation and changes of the treatment protocols insufficient

Resources for the evaluation of treatment urgency have not been accounted for properly

Follow-up of treatment start delay times was insufficient

Description of prostate implant therapy in the quality manual was incomplete

Instructions were incomplete:

- for the indications of thyroid cancer therapy
- for the work orientation of oncologists and physicists
- for exceptional situations (hazards, electricity breaks etc.)

In-house education of oncologists has not been recorded properly

Recommendations from the audit:

The following points of development were identified:

1) A need for setting up a system for the follow-up of the radiation therapy outcome and complications
2) A need to improve the written instructions, especially for activities at the radiation treatment units
3) A need for instructions for the utilization of observed errors and incidents in improving the radiation therapy process.

Conclusions

We conclude that the findings were useful for us in two ways:

On one hand we received confirmation that generally our procedures in radiation therapy proved to be of good quality.

On the other hand we obtained support for the most urgent development areas and could use the report as an outside statement, when seeking resources for the development.

In some areas the audit criteria were derived from diagnostic radiology, and more specific criteria for radiation therapy need to be developed for the next round of the clinical audit.

Suggestion for the next round:

To be reviewed for a selected group of patients:

- what is included in the planning target volume (PTV)?
- the dose coverage of the PTV
- fulfilment of the dose constraints to organs at risk.