

AbstractID: 7173 Title: Establishment of Japanese QA booklet in permanent prostate implant brachytherapy

Purpose: I-125 permanent implant brachytherapy for prostate cancer was approved in Japan in 2003, and is now offered by an increasing number of hospitals. Although existing QA guidelines (AAPM or ESTRO) in this therapy are well documented, many Japanese hospitals required more detail procedures, because of the shortage of medical physicists. In addition, it is important to supply reliability on clinical evidence in the future clinical trial in Japan. The purpose of this study is to establish new Japanese QA booklet which dedicates clinical practice.

Materials and Methods: We first investigated several brachytherapy QA guidelines in western countries including AAPM reports or ESTRO booklet. Then we confirmed the procedures one by one by performing QA in our hospitals and made the resulting problems clear. After that, we determined QA items. To support QA, we developed the software for commissioning of brachytherapy treatment planning system (TPS).

Results: The feature of this booklet is that (1) Much easier to understand by using many figures or examples. (2) For QA which requires expert knowledge including point dose calculation check in the commissioning of TPS, we developed software to support users. (3) The QA items were classified into two categories. Namely, category 'Must' indicates a recommendation that is necessary to be executed at least as a prevention of accidents, and category 'Recommend' indicates an advisory recommendation to keep quality of implant. (4) Items of acceptance testing and the detail procedures were described in detail to promote vendor acceptance test in the Japanese agencies. (5) Each sentence was itemized so that users can easily read and understand.

Conclusion: We established very practical Japanese QA booklet for permanent implant brachytherapy. This booklet can be helpful worldwide.

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