

Design di una survey nazionale per valutare la tecnologia utilizzata in SBRT. Design of a national survey to assess the technology applied to SBRT.

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Purpose: Stereotactic body radiation therapy (SBRT) approach for treating early stage solid tumor and metastases is increasing worldwide. In 2013 the Italian Association of Medical Physicists (AIFM) constituted a working group in order to standardize SBRT dosimetric aspects. A survey was designed aiming to delineate the status of the technology applied in SBRT on a national level. Clinical evaluation of SBRT was out of the present study.

Methods and materials: A questionnaire was designed by three medical physicists expert of SBRT using Google Forms containing questions regarding image-guidance solutions, respiratory management, delivery mode, treatment planning system (TPS) commissioning, and QA approach. A large number of medical physicists from 54 centers with heterogeneous technology was invited to participate and 45 of them completed the survey. Experts were asked to provide suggestions based on personal experience and specificity.

Results: Many comments from the panel were provided. After two webrtcall and two versions, the final questionnaire was developed. Results showed great heterogeneity in terms of technologies, image-guidance solutions, respiratory management, delivery mode, TPS commissioning and QA approach. The most available delivery system was conventional linacs with VMAT modality; the most common energies used were 6MV and 6MV-FFF; for the 56% of centers robotic couch was available, CBCT was the most used IGRT technique (78% of centers) and 40% of centers did not use respiratory management during treatment delivery. The smallest measured field size for lateral beam profiles was lower than $1 \times 1 \text{cm}^2$, while only the 62% of centers used the same field size for the TPS commissioning (from $1 \times 1 \text{cm}^2$ to $4 \times 4 \text{cm}^2$). A large number of centers (51%) feel the necessity to upgrade their dosimetric devices dedicated to SBRT QA.

Conclusion: This survey on SBRT could allow to improve the QA procedure and to define minimum requirements for SBRT dosimetric verification.

