Invited Lecture

TEAM EFFORTS FOR PATIENT SAFETY IN EXTERNAL RADIOTHERAPY

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Process of Radiotherapy (RT) consists of several sub-processes (e.g. CT-simulation, treatment planning and treatment delivery) that are performed with interaction by multidisciplinary team including radiation oncologists, medical physicists, nurses and radiological technologists (Fig. 1). After several tasks in a sub-process have completed, the tasks have been moved to next process. Several automated technologies such as R&V system have been developed to prevent errors. However, there are many non-automated tasks such as delineation of target volumes, inputting treatment parameters and patient position verification that are subject for human failures. Several reports regarding patient safety in RT have been published in past decade. World Health Organization mentioned "*Misinformation or errors in data transfer constituted the greatest bulk of incidents in modern radiotherapy services.*" in their report [1]. When some failures have happened in a sub-process, it might be difficult to find the mistakes in following steps, because some expertise procedures might be "black box" for other occupational staffs and unexperienced staffs. We should make process clear and make consensus within RT team for patient safety in each institution. In this presentation, I will focus on non-technical issues towards patient safety in external radiotherapy.

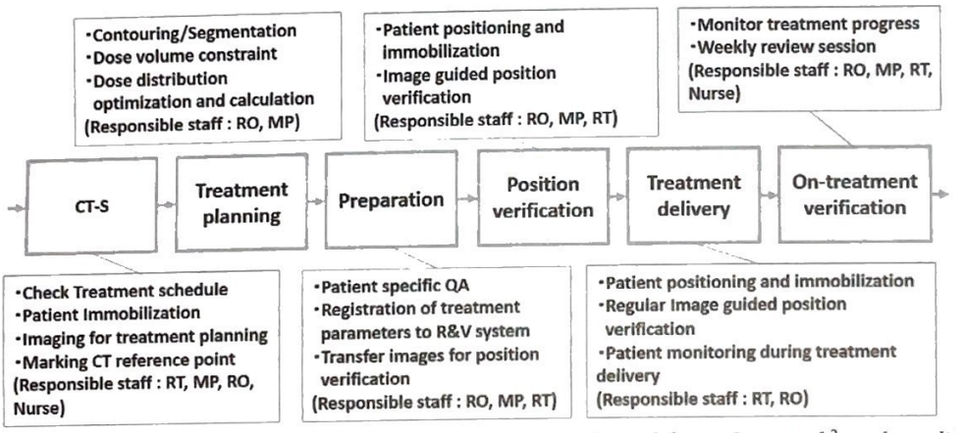

Fig.1. An example of workflow in external radiotherapy (Figure was referred from Ota et al.[2] and modified)

Reference

1. World Health Organization. Radiotherapy risk profile in 2008: Geneva. http://www.who.int/patientsafety/activities/technical/radiotherapy_risk_profile.pdf (23 November 2009, date last accessed)
2. S. Ota, H. Monzen, I. Sumida, Y. Yoshioka and R. Kado, "Quality Improvement in External Radiation Therapy Using a Departmental Incident-Reporting System and Multidisciplinary Team Efforts," J Nucl Med Radiat Ther 6, 2 (2015)