MEDINFO 2007
HISA Ltd Australia
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The Integration of the Radiation Therapy Information Systems - Activities of IHE (integrating the healthcare enterprise) - Japan Radiation Oncology

Nobuhiro Tsukamoto[a], Osamu Kawaguchi[a], Yutaka Ando[b], Masami Mukai[b], Shigeo Matsuda[c], Hodaka Numasaki[d], Masaharu Kimura[e]

[a] *Department of Radiology, Saitama Medical University, Japan*
[b] *Medical Informatics Section, National Institute of Radiological Sciences, Japan*
[c] *Saitama Medical Centre, Saitama Medical University, Japan*
[d] *Graduate School of Medicine, Course of Health Science, Osaka University, Japan*
[e] *Cancer Institute Hospital of Japanese Foundation for cancer Research, Japan*

Abstract

The IHE-Japan RO(IHE-J RO) working group is started in February 2006 by JRS, JASTRO, JSRT, JIRA, four university, and eleven vendors, and the necessity of a Japanese extension to digging up and Japan of standard work flow models in Japan is examined. The consideration of special steps in approval is necessary for QA, and systematization for safety is important.

Keywords:

IHE, radiation oncology, DICOM, HL-7

Introduction

The Integrating the Healthcare Enterprise (IHE) is started by Radiological Society of North America (RSNA) and the Healthcare Information and Management Systems Society (HIMSS) in 1999, and it is wide to Europe and Asia. The object field has extended to not only the radiology but also the heart decease and the endoscope, etc.

It is necessary to approach the radiation therapy, too. In the radiation therapy field and IHE Radiation Oncology(IHE RO) started operations from 2005 in North America. And they are making the guideline of the information exchanges of standard work flows that used HL7 and DICOM-RT. Actor and the transaction in the irradiation of the treatment planning and radiotherapy treatment delivery, and the standards are proposed. Also in Japan The IHE-J RO working group is started in February, 2006. We reports the activity of IHE-J RO.

Activities of IHE-J RO

It is enumerated that facilities where a full-time radiation oncologist doesn't exist are not few in Japan. The radiation oncologist or other department physician makes treatment plans, and the oncologist or radiation technologist designs the irradiation beam. And radiation technologist executes the treatment. The process is divided by two occupations (the oncologist and the technologist). The Physicists are very few in Japan, the oncologist or the technologist design the beams, and make dose calculation. There are actually a lot of facilities to which the technologist design the beams. This situation especially influence the approval procedure. When the oncologist design the plan and beams by self, The possibility of making a mistake increases. Recently the mistakes were reported in the calculation with RTP, and the overdose and the underdose accident happened frequently in Japan. It is recommended for safety to compare the MU units of RTP and that of the hand calculation or other dose calculators. This recommendation should be taken in the integration profiles.

Conclusion

The workflow: Common workflow to most of facilities in Japan has been extracted by the scene of the examination, the irradiation, and the treatment plan. The mechanism that progress is managed a lot and the cooperation of the hospital information system and the electric medical record become it. Not a one-sided flow but the repetition and the divergence : the flow of the radiation therapy.

Peculiarity of Japan: It is enumerated that physicists are very few, and facilities where a only part-time radiation oncologist works are not few. This has the influence in the approval procedure. The consideration of special steps is necessary for QA, and systematization for safety is important.