

A Survey of the Current Status in Management of Radioactive Wastes from Linear Accelerators in Korea

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NINTH INTERNATIONAL
CONFERENCE ON RADIATION
IN VARIOUS FIELDS OF RESEARCH
June 14-18, 2021 | Hunguest Hotel Sun Resort | Herceg Novi | Montenegro

Introduction

- Purpose :** To investigate how radioactive waste generated from linear accelerators is managed in Republic of Korea
- In the case of using X-ray energy above 8 MV, photoneutrons are generated by the photonuclear reaction
- The components of the linear accelerator (LINAC) are **“ACTIVATED”**
- In order to understand the **current status of the management** of radioactive material from LINAC

Material and Methods

- Survey :** Shielding management status of LINAC facilities
- Radiation oncology departments(100 Institutions) in Korea
- Web-base survey

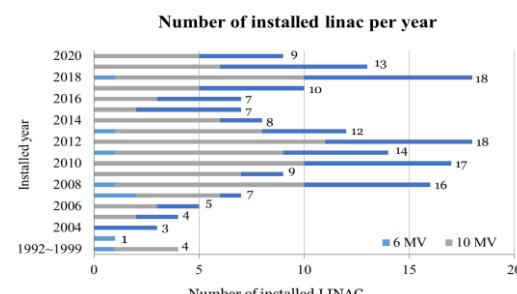
* Survey contents

Status and period of use of LINAC, Installed number of LINAC
Whether they have experience of disposing of the linac

The method of disposal, The reason for disposal, Whether the disposal was measured, Whether the reports were wrote etc.

Results

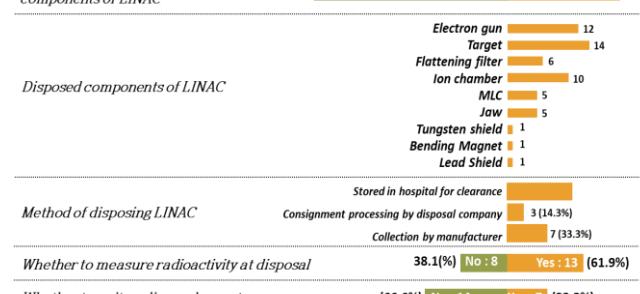
- 53 answers were collected** (Most regions in Korea showed a 50–100% response ratio)
- In Republic of Korea, there are 100 radiation oncology institutions, and 182 LINACs are installed.
- Most of medical institutions did not perform radiation measurements when disposing of LINAC or components of LINAC.
- The disposal criteria & regulation for disposal LINAC did not exist.
- The radioactive material from LINAC were either stored within the institution or collected by the manufacturer.



Experience of clearance for medical LINAC (Whole system)



Experience of disposal for components of LINAC



Conclusion

- In Republic of Korea, standards and procedures for radioactive material from disposal LINAC have not yet been established.
- Most of institutions did not have the regulations for disposing radioactive waste from LINAC, most of institutions follow own policy or dispose through the company/manufacturer.
- There are necessity for establishing a clearance procedures and disposal standards including radioactivity or dose limit.

Acknowledgment

This work was supported by the Nuclear Safety Research Program through the Korea Foundation Of Nuclear Safety(KoFONS) using the financial resource granted by the Nuclear Safety and Security Commission(NSSC) of the Republic of Korea. (No. 2003013) and by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education (NRF- 2018R1D1A1B07050217).