Radiation Treatment for Patients with Implanted Medical Devices

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1 INTRODUCTION AND PURPOSE

The integration of implanted devices (ID) for chronic conditions is increasing due to advancements in medical technology

Devices such as cardiac implants, glucose monitors, cochlear implants, and brain stimulators raise concerns about radiation exposure during treatment

Ontario Health – Cancer Care Ontario's Radiation Incident Safety Committee (RISC) is responsible for promoting incident learning, safety and quality improvement at the provincial level

RISC had identified that variation exists in local implant device policies and guidance across the province

This initiative sought to create provincial recommendations for implanted device policies and procedures for patients undergoing radiation therapy

2 METHODS

Policies from regional cancer programs were collated for review to create a recommendations document

A thematic analysis was performed to identify pre, during, and post-treatment considerations and relevant stakeholders

3 RESULTS

Policies received from Ontario's regional cancer programs were evaluated (n=9)

Ten realms were identified that should be considered in the development of institution-specific policies and procedures for implanted devices including:

1. requirements
2. Responsibility for identification
3. Documentation responsibility and locations
4. Engagement of relevant stakeholders (e.g., cardiology)
5. Imaging/planning considerations
6. Beam energy and dose constraints
7. On treatment device monitoring
8. Additional considerations (e.g., MR simulation)

4 CONCLUSIONS

The recommendation document raises awareness about the necessary considerations of the impact of radiation on existing and emerging implanted devices

In addition, the document provides considerations for minimizing negative effects on patient care and device corruption post radiation exposure

Ontario Health
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