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Abstract

Background: Clinical audits are an important tool to objectively assess clinical protocols, procedures, and processes and to detect deviations from good clinical practice. The main aim of this project is to determine adherence to a core set of consensus-based quality indicators and then to compare the institutions in order to identify best practices.

Materials and methods: We conduct a multicentre, international clinical audit of six comprehensive cancer centres in Poland, Spain, Italy, Portugal, France, and Romania as a part of the project, known as IROCATES (Improving Quality in Radiation Oncology through Clinical Audits — Training and Education for Standardization).

Results: Radiotherapy practice varies from country to country, in part due to historical, economic, linguistic, and cultural differences. The institutions developed their own processes to suit their existing clinical practice.

Conclusions: We believe that this study will contribute to establishing the value of routinely performing multi-institutional clinical audits and will lead to improvement of radiotherapy practice at the participating centres.

Key words: radiotherapy; clinical audit; quality indicators

Introduction

Radiotherapy treatment planning and delivery has become increasingly complex in recent years due to technological advances in radiotherapy equipment. The introduction of advanced techniques has improved clinical outcomes by allowing for precise dose delivery to the target while reducing radiation doses to critical organs. However, given the importance of ensuring the precision of radiation delivery [1–3], it is essential to optimize the radiotherapy process and to implement procedures designed to detect and prevent errors [4]. In this context, clinical audits are an important tool to objectively assess clinical protocols, procedures, and processes. Clinical audits are widely used in medicine and offer numerous benefits, including the capacity to detect deviations from good clinical practice.

The main aim of this project is to determine adherence to a core set of consensus-based quality indicators—jointly established by the partners in accordance with the best available evidence—and then to compare the institutions in order to identify best practices. A second aim is to harmonise radiotherapy practice among the participating centres and to promote the use of advanced radiotherapy equipment (which is more effective, accurate, and safer than older technologies), and to encourage the wider application of clinical audits. The ultimate objective is to improve treatment outcomes for patients.

Materials and methods

The clinical audits will evaluate clinical and treatment-related data for 100 patients per tumour site (rectal and prostate cancer) to verify adherence to a set of quality indicators. The audit will be performed by analysing the medical records of patients treated between January 1, 2018 through December 31, 2019.

Results

Despite the widespread availability of clinical guidelines and protocols, radiotherapy practice varies from country to country, in part due to historical, economic, linguistic, and cultural differences. In addition, new technologies tend to be incorporated only gradually, centre-by-centre, over time [5]. As a result, institutions often have to develop their own processes to suit their existing clinical practice. While some variation between countries and centres is normal and expected, it is clear that every effort must be made to adhere to established, evidence-based protocols. This is especially important in radiation oncology, in which even small deviations can have major negative effects.

To date, inter-institutional external clinical audits have been used only sparingly in radiotherapy [6–10]. However, there is a growing interest in expanding the use of clinical audits and quality indicators, including a directive from the European Union [11–14]. Given the proven benefits of external audits, together with the need to harmonise clinical practice in Europe, our group previously carried out a multicentre clinical audit in four different European countries (Spain, Poland, Portugal, and Italy). The results of that study, known as IROCA (*Improving Quality in Radiation Oncology through Clinical Audits*) [15, 16], revealed important differences in clinical practice in radiotherapy planning and delivery for rectal and prostate cancer.

Currently, our group is conducting a multicentre, international clinical audit of six comprehensive cancer centres in Poland, Spain, Italy, Portugal, France, and Romania. This project, known as IROCA-TES (*Improving Quality in Radiation Oncology through Clinical Audits–Training and Education for Standardization*), involves the following centres: 1) Catalan Institute of Oncology (ICO, Barcelona, Spain), 2) Greater Poland Cancer Centre (GPCC; Poznan, Poland), 3) Instituto Português de Oncologia do Porto Francisco Gentil (IPO, Porto, Portugal), 4) University Hospital Maggiore della Carita (UPO, Novara, Italy), 5) Cancer Institute of Montpellier (ICM, Montpellier, France), and 6) The Oncology Institute Prof. Dr. Ion Chiricuta (IOCN, Cluj Napoca, Romania).

The IROCA-TES project can be considered, at least partly, a follow-up to the original IROCA study. However, the new study has been expanded to include more centres and more patients. In addition, the study design has been improved and streamlined based on our previous experience.

The focus will be on evaluating medical, dosimetric, and technical data related to diagnosis and treatment. A questionnaire will be used to guide collection of the study data, which will then be entered into a purpose-built online database. After all data have been collected and entered into the database, the auditing team will prepare a report and meet with the audited institution to discuss the results. A series of meetings will be held to discuss the findings and to reach a consensus on harmonising the radiotherapy procedures and processes.

Conclusion

The primary objectives of this study are to improve clinical practice at the participating centres and to identify “best practices”, which can then be implemented at all participating centres to improve treatment outcomes for the benefit of our patients. Finally, we believe that

this study will contribute to establishing the value of routinely performing multi-institutional clinical audits.

Conflict of interest

None declared.

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