Guideline-Based Algorithmic Recommendations Versus Multidisciplinary Team Advice for Gynecologic Oncology

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Evidence-based clinical decision making in oncology is challenging. Multidisciplinary team (MDTs) meetings are organized to consider different diagnostic and treatment options. MDT advice are often based on clinical practice guideline recommendations which can be extensive and ambiguous, making it difficult to implement in clinical practice. To address this issue, guideline-based algorithms have been developed. These are applicable in clinical practice and enable accurate guideline adherence evaluation. This ongoing study aims to determine the optimal decision-making approach for different subpopulations of patients with high-incidence gynecological cancers.

Keywords. Oncology, Multidisciplinary team, Decision Making, Clinical guideline

1. Introduction

Evidence-based clinical decision-making in oncology is increasingly challenging due to numerous subpopulations and the large variety of available treatment options [1]. Multidisciplinary team (MDTs) discussions serve to obtain insight regarding patient and disease characteristics on an aggregated level, to consider diagnostic and treatment options and to reach a multidisciplinary advice based on clinical practice guidelines recommendations [2]. Recommendations in textual guidelines are often extensive, ambiguous and inconsistent and not systematically aligned with the clinical decision process in the care path. A method that remodels guideline recommendations into unambiguous, data-driven decision algorithms is clinical decision trees (CDTs) [3]. To manage relevant characteristics for making guideline-based recommendations MDTs could potentially benefit from a computerized clinical decision support system (CDSS). Little attention has been paid to the role of CDSS preceding a MDT, for selection of cases that benefit from a multidisciplinary discussion. It is expected that subpopulations can be identified who do not benefit from a multidisciplinary discussion [1]. The aim of this paper is to present a currently ongoing study exploring the research question: For

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every subpopulation of the total population under study, which decision-making echelon ('guideline-based algorithmic' versus 'multidisciplinary team') achieves the optimum balance between quality of care for the patient and physicians' efforts?

2. Methods and Outcomes

This prospective, multicenter, observational, concordance study takes place at 21 hospitals, 5 gynecologic oncologic centers and their network clinics. We aim to include a total of 300 cases, distributed over 15 CDTs, associated with 3 gynecological oncological diseases (cervical cancer, endometrial cancer and epithelial ovarian cancer). A senior medical doctor observes MDT discussions and manually collects all available data during MDTs. After each MDT data from all cases are plotted onto the corresponding CDT in order to generate a guideline-based recommendation. The proposed interventions from MDT and CDT are assigned to one of the four following groups, depending on the level of concordance: I) concordant, II) conditionally concordant, III) non-concordant (motivated) and IV) non-concordant (non-motivated).

Based on concordance levels, performed treatment and achieved health outcomes a proposal for echelons in gynecologic oncological decision-making is made for each included subpopulation. The following echelons could be considered: 1. Monodisciplinary with guidelines (algorithmic), 2. Multidisciplinary (local hospital), 3. Multidisciplinary with experts (consultation of gynecologic oncological center).

3. Discussion and Conclusion

Expected results of this study will provide guidance for defining appropriate decision-making levels for gynecological oncology. In the Netherlands, healthcare professionals have set standards for discussing at least 90% of cancer patients This research may help to nuance current standards [8]. Results are determined at population level, meaning that for an individual patient the optimal level of decision-making may differ from the rest of her subpopulation. For this reason, we recommend that the treating physician always remains in control to determine the optimal decision-making echelon for each individual patient. Conclusion: With the help of the proposed applied health informatics innovation, the pressure on care professionals in oncology may be reduced, while quality of care is maintained. Preliminary results of the study are expected in the second half of 2023.

4. References

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