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Uterine Tumors Resembling Ovarian Sex Cord Tumors: Systematic Review and Meta-Analysis of Individual Patient Data from Case Series and Case Reports

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ADMINISTRATIVE INFORMATION

Support - None.

Review Stage at time of this submission - Risk of bias assessment.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 25 February 2024 and was last updated on 25 February 2024.

INTRODUCTION

Review question / Objective What are frequent locations and pathological features of this tumor, and what immunochemistry markers are used for diagnosis?
What factors can be related to tumor's behavior or unfavorable prognosis?
Is conservative surgery associated with a higher risk of recurrence compared to hysterectomy?

Rationale Uterine tumors resembling ovarian sex cord tumors (UTROSCT) form a rare group of stromal tumors exhibiting sex cord-like differentiation, most often resulting in a close resemblance to a granulosa cell tumor. They show a variable histological appearance, with epithelial, smooth muscle and sex-cord elements expressed in various proportions. There have been case reports and case series discussing UTROSCTs but much of the information available is derived from single-center experiences and case reports. Although available evidence suggests that UTROSCTs generally have a favorable prognosis following surgical resection, recurrences have been reported, and factors influencing recurrence risk or prognostic indicators remain poorly understood due to the limited data available.

Condition being studied The condition being studied is uterine tumor resembling ovarian sex cord tumor (UTROSCT), a rare uterine neoplasm composed predominantly of cells which resemble those seen in sex cord tumors of the ovary.

METHODS

Search strategy The search was performed on Pubmed/MEDLINE for articles in English from inception to present, using the following keywords: (uterine tumor resembling ovarian sex-cord tumor) OR (utrosct) OR ((ovarian sex-cord tumor) AND (uterine tumor)) OR (uterine tumor resembling ovarian sex-cord tumors) OR ((ovarian sex-cord tumors) AND (uterine tumors)). To identify articles potentially missed by the search, Google Scholar was queried for the same keywords. During the

data extraction stage, additional screening of the references would be performed manually.

Participant or population Adult women diagnosed and reported with UTROSCT.

Intervention Diagnosis and treatment of UTROSCT.

Comparator Not applicable.

Study designs to be included Case reports and case series.

Eligibility criteria The inclusion criteria for the eligible articles are: (a) case report or small case series; (b) pathology report suggestive for UTROSCT; (c) the paper should mention the age and presenting symptoms for the patient/s; (d) the paper should mention the therapeutic approach and the degree of removal of the tumor. The exclusion criteria are: (a) incomplete removal of the initial tumor; (b) follow up period not mentioned or less than six months; (c) missing information regarding the diagnostic procedure and therapeutic approach.

Information sources Electronic databases of MEDLINE/PubMed were searched for articles in English from inception to June 2023. To identify articles potentially missed by the search, Google Scholar was also queried. During the data extraction stage, additional screening of the references was performed manually.

Main outcome(s) A dataset will be synthesized with retrieved data.
Outcomes of quantitative analysis would comprise: (a) descriptive statistics for categorical and numerical variables; (b) estimation of disease-free survival for different characteristics or predictors (such as location of tumor or treatment).

Data management Primary data management was performed in Excel and IBM SPSS v.20.
IPD survival analysis of will be conducted using R v. 4.3.1 packages (including "survival" v. 3.5-5).

Quality assessment / Risk of bias analysis After the full article screening, the quality of selected articles was assessed applying the methodology of Murad et al. (Murad MH, Sultan S, Haffar S, Bazerbachi F. Methodological quality and synthesis of case series and case reports. BMJ Evid Based Med. 2018 (2):60-63. doi: 10.1136/bmjebm-2017-110853). Two reviewers independently assessed the articles for eligibility and quality. All disagreements were resolved by consensus or by a third senior researcher.

Strategy of data synthesis A dataset will be synthesized with retrieved data regarding: age; symptoms and clinical characteristics; immuno-histo-pathological findings; immunochemistry markers used for diagnosis; location of tumor; treatment; follow-up period and recurrence when the case. This data set will be used for individual patient data (IPD) meta-analysis according to PRISMA-IPD statement and Cochrane-endorsed IPD methodological research publications.

Subgroup analysis Disease-free survival analysis will be performed for various locations of tumor and options of treatment.

Sensitivity analysis For the disease-free survival analysis, the IPD regression model will be checked for robustness by introducing/removing various possible independent predictors.

Language restriction Only publications written in English were selected.

Country(ies) involved Romania.

Keywords UTROSCT; uterine neoplasm; diagnosis; organ-preserving surgery; fertility-preserving surgery; disease-free survival.

Dissemination plans Publication of a research paper in an open access medical journal.

Contributions of each author
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