European Journal of Gynaecological Oncology

Special Issue

Molecular pathological approach to uterine mesenchymal tumors and malignant tumors for the establishment of new diagnostic and therapeutic methods

Guest Editor(s)

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Dear Colleagues,

Uterine mesenchymal tumours, including uterine leiomyosarcoma (uLMS), are gynaecologic tumours difficult to treat clinically. To our knowledge, no standard clinical treatment for uLMS has been established in any clinical practice guideline. The primary reason for the lack of established treatment is the difficulty of conducting clinical trials because of the low incidence of uterine sarcoma. In many patients, uterine sarcoma develops within the body of the uterus. The development of sarcomas outside the body of the uterus (i.e. vagina, vulva, ovaries, etc.) is rare. A clinical study of uterine sarcoma revealed that the incidence of uterine sarcoma was 8% of malignancies that developed in the body of the uterus. Uterine sarcoma is classified into carcinosarcoma, a mixed epithelial and mesenchymal tumour, and mesenchymal tumor (uLMS, endometrial stromal sarcoma, adenosarcoma, etc.). Approximately 50% of all uterine sarcomas are carcinosarcomas, and most of the other 50% are uLMSs, adenosarcomas and endometrial stromal sarcomas (ESS). Based on the results of clinical studies so far, uterine sarcomas are roughly classified into three. In clinical practice, cancer sarcoma (46%), leiomyosarcoma (36%) and ESS (13%) are found in descending order of frequency of uterine sarcoma. The peak age of onset is approximately 50 years for uLMS and ESS, whereas that for carcinosarcoma is ≥60 years. The 50% survival for ESS is approximately 76 months, whereas that for carcinosarcoma or uLMS is approximately 27 and 30 months, respectively. Due to the low incidence of uterine sarcoma and the subtle differences in the same histology, the molecular pathological diagnosis of uterine sarcoma is often difficult in clinical practice. The clinical treatment strategy and prognosis of uterine sarcoma are determined based on the molecular pathological diagnosis of the resected uterine sarcoma tissue. Therefore, gynaecologists, radiologists and pathologists need to share molecular pathological information to determine the clinical, surgical and pathological diagnosis of uterine sarcoma.

Key Words: Leiomyoma, Leiomyosarcoma, Ovarian Cancer, Cervical cancer, Endometrial cancer

Submission Deadline: 31 October 2023

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