ENDOMETRIAL MIXED EPITHELIAL CARCINOMA: EPIDEMIOLOGY, TREATMENT AND SURVIVAL – A 10-YEAR RETROSPECTIVE COHORT STUDY FROM A SINGLE INSTITUTION

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Introduction/Background Mixed endometrial carcinoma refers to rare endometrial tumours that are comprised of two or more distinct histotypes, at least one of which is serous or clear cell. Limited data is available on the recurrence rates for mixed epithelial endometrial carcinoma, as it comprises a relatively understudied subtype of endometrial cancer. The aim of this study is to evaluate the epidemiology, treatment outcomes and survival rates of patients with mixed epithelial carcinoma.

Methodology Medical records of the patients diagnosed with mixed endometrial carcinoma between March 2010 and January 2020 reviewed retrospectively. Clinicopathological variables and treatment strategies were assessed, and overall survival (OS) and disease-free survival (DFS) rates were evaluated.

Results A total of 34 patients were included in the study. Histology of endometrioid and serous component was found in 26 (76.5%) patients, followed by serous and clear cell components (5/34 14.5%) and a mixture of endometrioid, serous and clear cell components (3/34, 8.8%). The median age was 70 years (range 52–84), and median follow-up time was 55 months. Most patients (70%) were treated with laparoscopy. Overall, the 5-year disease-free survival rate (DFS) and the 5-year overall survival (OS) rate was 50.4% and 52.4%, respectively. Advanced disease stage was found to be independently correlated with worse 5-year disease-free survival (DFS) and overall survival (OS) rates (p<0.001).

Conclusion The management of mixed epithelial endometrial carcinoma presents several challenges for clinicians and researchers that need to be addressed to improve oncologic outcomes. Accurate and early diagnosis plays a fundamental role to determine the appropriate treatment plan. Improved diagnostic techniques, as well as molecular profiling and imaging technologies, as well as identification of specific biomarkers associated with the distinct features of the tumour, can help clinicians effectively stratify the patients and tailor treatment accordingly. Undoubtedly, the implementation of molecular analysis will offer further diagnostic and management insights.

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THE MUTATIONAL LANDSCAPE OF UTERINE SARCOMA: IS THERE RATIONALE FOR TARGETED THERAPIES?

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Introduction/Background We aimed to characterize the mutational landscape of uterine sarcoma.

Methodology Data were extracted from the American Association for Cancer Research’s (AACR) Project Genomics Evidence Neoplasmia Information Exchange (GENIE) database version 13.1 via cBioPortal (http://genie.cbioportal.org). We queried this database for uterine sarcoma samples and analyzed frequencies of pathogenic gene variants (PGVs) for which targeted therapies are currently available or in clinical trials for other cancer types. These included PGVs associated with homologous recombination deficiency (HRD): ATM, ARID1A, ATRX, BRCA1, BRCA2, BARD1, BRIP1, BLM, BAP1, CHEK1, CHEK2, FANCA, FANCC, FANCD2, FANCE, FANCF, FANCG, FANCL, MRE11, NBN, PALB2, RAD50, RAD51, RAD51B, RAD51C, RAD51D, WRN; PGVs associated with the MAP-kinase signaling pathway: BRAF (V600E), KRAS, NRAS, EIF1AX; PGVs associated with mismatch repair (MMR): MSH2, MSH3, MSH6, MLH1, MLH3, PMS2, EPCAM; PGVs in other genes: PTEN, PIK3CA, MTOR, CDKN2A, CDKN2B, and ERBB2 (amplification).

Results A total of 704 uterine sarcoma tumor samples from 680 patients were included for analysis. At least one somatic PGV was observed in an HRD associated gene in 27.8% (196/704) of all tumors, with the most common PGVs observed in ATRX (109/645, 16.9%), BRCA2 (27/652, 4.1%) and RAD51B (16/435, 3.7%). At least one somatic PGV was observed in an MMR associated gene in 3.0% (21/704) of all tumors, with the most common PGVs observed in MSH6 (6/648, 0.9%) and MSH2 (5/633, 0.8%). At least one somatic PGV was observed in a MAP-kinase associated gene in 2.8% (20/704) of all tumors, with the most common PGVs observed in KRAS (14/680, 2.1%). Highest frequencies of other targetable PGVs were observed in PTEN (89/677, 13.1%) and PIK3CA (16/680, 2.4%).

Conclusion The high rate of PGVs in HRD genes and PTEN in uterine sarcoma tumor samples suggests the need for clinical trials evaluating the efficacy of genetically targeted therapies for this patient population.

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ONCOLOGICAL QUALITY OF OPEN, LAPAROSCOPIC, AND ROBOTIC SURGERY IN EARLY-STAGE ENDOMETRIAL CANCER, A NATIONWIDE, POPULATION-BASED CANCER REGISTRY STUDY IN TAIWAN

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Introduction/Background Surgical treatment is the cornerstone for women with early-stage endometrial cancer, which has been seen an increasing incidence in Taiwan. Minimally invasive surgery (MIS) is associated with less complications, little is known for the comparison of open and MIS approaches in Taiwan. Preliminary results are reported here.

Methodology We used the Taiwan Cancer Registry (TWCR), which is a nationwide and population-based database, to collect data. Between 2018 and 2020, women with early-stage endometrial cancer who underwent staging surgery and had
pathological diagnosis were included. The main outcome measure is harvested lymph node number (LNH).

**Results** A total of 5567 patients were included in this analysis (1696 in 2018, 1982 in 2019, 1889 in 2020, respectively). Median age was 56 years. 93.30% of patients had stage I disease and 6.70% had stage II. The endometrioid subtype accounted for 84.98% of all patients. Overall, 3057 (54.91%) underwent open surgery for hysterectomy and staging, 36.29% and 8.80% patients received laparoscopic surgery (LS) or robotic surgery (RS), respectively. Adoption of LS and RS were 37.80% and 7.83% in 2020, respectively, compared to 33.55% and 10.79% in 2018. 46.52% of stage I patients underwent MIS, compared to 25.20% for stage II. Conversion to open surgery occurred to 0.36% of patients. Sentinel LN sampling (SLS) was performed in 3.59% patients. The mean number of LNH was 20.58 (± 14.07) for open surgery, 21.84 (± 16.54) for RS, and 16.59 (± 12.55) for LS, respectively. The mean number of LNH was 20.89 (± 14.16) for open surgery, 21.84 (± 16.54) for RS, and 16.59 (± 12.55) for LS, respectively. 

**Conclusion** Open surgery remains the majority in Taiwan. RS could serve as an alternative MIS approach for endometrial cancer.

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### Ovarian Tumors During Pregnancy: Single Cancer Centre Experience

**Introduction/Background** Ovarian tumors are rare during pregnancy and are observed in 2.3–8.8% of pregnant women. However, most of them are benign in nature, and only 1–6% are reported to be malignant.

**Methodology** The material of the study was the data of patients extracted from the Belarusian Cancer Registry for the period 2015–2022, who applied for a consultation to the our Cancer Center. The course and outcomes of treatment, the relationship with the method of delivery and the extent of surgical intervention were retrospectively analyzed.

**Results** Of the 20 pregnant women, complete data were available in 10 patients. The median patients’ age was 29 years (range 21–38 years). The median gestational age at ovarian tumor diagnoses was 20.5 weeks (range 5–36 weeks). Tumors were classified as stage IA in 6 patients, IB in 1, IC in 2, and IIB in 1.

**All patients underwent surgical treatment** Conservative approach was used in 2 cases, fertility-sparing surgery with comprehensive staging operation in 8 patients. The complete staging procedure included careful exploration, peritoneal cytology, random peritoneal biopsies, omentectomy, appendectomy (in mutinous tumors).

Morphologically, 5 patients were diagnosed with epithelial borderline tumors (serous, mucinous), 1 – epithelial ovarian cancer, 4 - non-epithelial malignant tumors.

The median gestational age at delivery was 39 weeks (range 36–42 weeks). All women underwent cesarean section without complications. Three patients (IC, n=2; IIB, n=1) received adjuvant chemotherapy.

With a median follow-up of 46.95 months (4.3–89.6 months), all patients are alive without signs of disease.

**Conclusion** In our study, all surgical interventions in patients with ovarian tumors during pregnancy were conservative or fertility sparing, did not affect the course and outcomes of pregnancy and oncological results. The interdisciplinary collaboration of specialists in perinatal medicine, gynecological oncology, chemotherapy, neonatology and psychology appears to be crucial to achieve the best possible maternal, neonatal and oncological outcomes.

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