Poster (E06)

Gestational Trophoblastic Neoplasia

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Genomic profiles of gestational choriocarcinoma for diagnosis and predicting prognosis

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Objective: Gestational choriocarcinoma (GC) is one of gestational trophoblastic diseases (GTDs), and a unique cancer that originates in pregnant tissues. GCs are known to be preceded by complete hydatidiform mole (CHM) (50%), previous abortions (25%), or normal/ectopic pregnancies (25%). CHM is considered a preneoplastic condition of GC, and invasive mole (IM) has neoplastic characteristics such as tissue invasion. However, what triggers CHM/IM to progress to GC is not figured out. Genomic alterations of GCs are not well studied because of the rare availability of tumor tissues. The lack of genome-wide alteration data on GTDs, led us to analyze GC genomes by whole exome sequencing, copy number alteration, copy-neutral loss-of-heterozygosity (CN-LOH) profiles in this study.

Methods: Whole-exome sequencing (20 GCs) and/or single-nucleotide polymorphism microarray (29 GCs) were performed. We analyzed CN-LOH in 29 GCs.

Results: Most GCs (25/29) harboring recurrent copy number alterations (CNAs) and gains on 1q21.1-q44 were significantly associated with poor prognosis. We detected five driver mutations in the GCs, most of which were chromatin remodeling gene (*ARID1A*, *SMARCD1*, and *EP300*) mutations but not in common cancer genes such as *TP53* and *KRAS*.

Conclusion: Our data indicate that GCs have unique profiles of CN-LOHs, mutations and CNAs that together differentiate GCs from non-GCs. Practically, CN-LOH and CNA profiles are useful for the molecular diagnosis of GC and the selection of GC patients with poor prognosis for more intensive treatments, respectively.

Poster (E07)

Endometrial Hyperplasia, Endometrial Intra-epithelial Neoplasia, and Endometrial Cancer

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Impact of surgical approach on survival and perioperative outcomes in women with stage II endometrial cancer

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Objective: To compare the survival and perioperative outcomes between minimally-invasive surgery (MIS) and open surgery in stage II endometrial cancer patients.

Methods: This was a retrospective study involving 205 patients with stage II endometrial cancer in a single institution between 2002–2018. Patients were stratified to either MIS or open surgery groups, and their pathological and clinical data were reviewed.

Results: One hundred fourteen patients had open surgery (55.6%) while 91 patients had MIS (44.4%) including conventional laparoscopic (70.3%), robot-assisted (22.0%) and laparoscopic-assisted vaginal hysterectomy (7.7%). The 5- and 10-year overall survival rate was 94.5% and 93.4% for the MIS group, while 89.4% and 85.8% for the open surgery group ($p=0.219$ and $p=0.127$). The 5- and 10-year progression-free survival rate was 91.2% and 90.1% for the MIS group, while 86.8% and 81.5% for the open surgery group, without statistical significance, $p=0.395$ and $p=0.372$. The uterine size (5.7 ± 2.3 vs. 8.0 ± 4.0 weeks; $p=0.007$) and tumor size (2.5 ± 1.7 vs. 4.5 ± 3.3 cm; $p=0.001$) were significantly smaller in the MIS group than in the open group. MIS was also associated with less blood loss (198.6 ± 4.3 vs. 684.8 ± 614.0 mL; $p=0.001$), fewer wound complications (1.1% vs. 5.6%; $p=0.034$), and shorter hospital stay (3 vs. 5 days; $p=0.031$) compared to open surgery. However, there is no significant difference in operation duration in the two groups (224 ± 97 vs. 227 ± 94 minutes; $p=0.554$).

Conclusion: The oncological outcomes and perioperative complication rates of patients undergoing MIS were not inferior to open surgery for stage II endometrial carcinoma.

Poster (E08)

Endometrial Hyperplasia, Endometrial Intra-epithelial Neoplasia, and Endometrial Cancer

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Incorporation of protein biomarkers to the ProMisE molecular classifier for further prognostication in endometrial cancer

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Objective: The Proactive Molecular Risk Classifier for Endometrial Cancer (ProMisE) is a clinically applicable prognostication method