and immune checkpoint inhibitor, but predictive biomarkers are lacking. We performed genomic profiling and characterized specific genes associated with an increased tumor mutational burden (TMB) in Chinese patients with ovarian cancer (OC). OC accounts for high rates of relapse and mortality among people with solid tumors worldwide. As traditional treatments are limited and often intolerant for patients with advanced ovarian cancer, PARP inhibitors and immunotherapy may breakthrough therapies patients immunotherapy could be a better option.

In order to explore the potential use of immunotherapy biomarkers, our study aimed to assess gene alteration and its correlations with microsatellite instability (MSI), TMB and tumor neoantigens burden (TNB) in Chinese CLC populations.

Methods: A total of 201 female Chinese patients with OC (including primary peritoneal cancer and fallopian tube cancer) were involved from February 2020 to July 2021. All paired specimens were detected by OncoDrug-Seq™ 603-gene panel assay through next generation sequencing using Illumina NovaSeq 6000.

Results: TP53 (62.7%) was the gene with highest mutation frequency, followed by *BRCA1* (18.9%), *KRAS* (11.9%), *ARID1A* (9.5%), *PIK3CA* (9.0%), *NFI* (6.0%), and *BRCA2* (6.0%). Further analysis showed that TP53 alterations (84.6%, n=11/13) were significantly more common in high-grade serous carcinoma than other histological subtypes. Variations detected included fusions (1.4%), duplication (4.5%), and deletion (4.0%). Among them the fusions were RET-CCDC6, BRAF-KIAA1549, NRG1-DIP2B, ERBB2-MACROD2, especially, the latter 2 fusions occurred simultaneously in one patient. Mutational incidences of significant pathway were also analyzed. Five signal pathways, including JAK-STAT (1.4%), MAPK (74.6%), EGFR (28.9%), WNT (63.7%), and TGFβ (1.0%) were related to mutational incidences. Correlation analysis between TMB and mutation status in OC (n=110) showed that the OC with RAD50 (n=4) or PALB2 (n=3) mutation patterns had higher TMB (mean values 20.3, 25.5, respectively, p<0.05), while the MSI status showed no significant difference (p>0.05).

Conclusion: The landscape of mutation patterns and MSI, and TMB among Chinese OC populations in this study will further assist the utilization of these biomarkers to immunotherapy strategies.

Poster (O12)

Rare Tumors & Metastatic Tumors

<https://doi.org/10.3802/jgo.2021.32.S1.O12>

Mucinous ovarian cancer metastasis to cervix: a rare case report

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Objective: Ovarian cancer is the second most common gynecological malignancy, but the most lethal. Mucinous ovarian cancer (MOC) is a rare subtype of epithelial ovarian carcinoma. MOC was believed to constitute around 12% of ovarian malignancies. However, recent estimations show the true incidence to be at around 3%. It is difficult to diagnose multiple malignancies in genital organ due to almost similar spreading pattern.

Methods: Women, 45 years old with vaginal bleeding and abdominal enlargement. The diagnose of the malignancies was made from Histopathology and advanced imaging. This is a rare case of MOC spreading to cervix has been treat as double primary cancer with radiotherapy and chemotherapy.

Results: After completion the therapy (radiotherapy and chemotherapy), patient shows good response without no evidence of disease. the close follow up are need to early detection of the recurrence.

Conclusion: Radiotherapy and Chemotherapy in this rare case of MOC that spread to cervix can treat both for locally advanced cervix metastasis and MOC. A good modality for diagnose is a key to detect a pathologic disease in gynecology malignancies.

Poster (O13)

Epithelial Ovarian Cancer including Borderline Tumor

<https://doi.org/10.3802/jgo.2021.32.S1.O13>

Predictors of outcome for relapsed epithelial ovarian cancer

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Objective: To determine the predictors of overall survival (OS) in relapsed epithelial ovarian cancer (EOC).

Methods: Case records of patients with EOC treated between January 2010 and December 2019 were reviewed to identify cases with relapse who received treatment. Primary treatment included upfront cytoreductive surgery followed by adjuvant paclitaxel + carboplatin in 116 (45.7%) patients and neoadjuvant chemotherapy followed by interval cytoreduction in 138 (54.3%) patients. Following first relapse, 215 (84.6%) received salvage chemotherapy, 13 (5.1%) underwent surgery while 27 (10.6%) patients with biochemical relapse were kept on observation. An intent to treat analysis was done.

Results: Total 254 patients, median age 50 (range=18–81) years had relapse; median relapses-2 (range=1–9). Median progression