for precision prevention. This study aims to estimate cost-effectiveness and population impact of parallel panel-germline and somatic BRCA-testing all OC-patients incorporating PARP-i therapy, compared with family-history (FH)/clinical-criteria based germline BRCA-testing in UK and USA health-systems. **Methodology** Microsimulation cost-effectiveness modelling using data from 2,391 unselected population-based OC-patients recruited to UK (n=1,483) and USA (n=908) research studies. The lifetime costs-&-effects of BRCA1/BRCA2/RAD51C/RAD51D/BRIP1 germline-testing and somatic BRCA1/BRCA2-testing in all OC-cases (BRCA-mutated patients undergo PARP-i therapy) (Strategy-A), was compared with FH/clinical-criteria based germline BRCA-testing (Strategy-B). Unaffected relatives with germline BRCA1/BRCA2/RAD51C/RAD51D/BRIP1 PVs identified through cascade-testing undergo relevant OC and breast-cancer (BC) risk-reduction interventions (risk-reducing salpingo-oophorectomy, MRI/mammography, chemoprevention or risk-reducing-mastectomy). We also evaluated cost-effectiveness of germline-panel testing alone (without PARP-i therapy). A lifetime horizon with payer/societal perspectives, along-with probabilistic and one-way sensitivity-analyses are presented. Incremental-cost-effectiveness-ratio (ICER); incremental-cost per quality-adjusted-life-year (QALY) gained, was compared to £30,000/QALY(UK) and $100,000/QALY(USA) thresholds. OC-incidence, BC-incidence and prevented deaths were estimated. **Results** Compared with clinical-criteria/FH-based BRCA-testing, BRCA1/BRCA2/RAD51C/RAD51D/BRIP1 germline-testing and BRCA1/BRCA2 somatic-testing all OC patients incorporating PARP-i therapy demonstrates UK-ICERs (payer-perspective=£42,433/QALY; societal-perspective=£41,622/QALY) and USA-ICERs (payer-perspective=£145,071/QALY; societal-perspective=£144,564/QALY) are higher than UK/NICE and USA cost-effectiveness thresholds. Strategy-A becomes cost-effective if PARP-i costs fall by 32% (UK) or 33% (USA), or overall-survival (OS) with PARP-i reaches HR=0.28. Unselected panel-germline testing (without PARP-i therapy) is extremely cost-effective from payer-perspective (UK-ICER=£11,291/QALY; USA-ICER=£68,808/QALY); and societal-perspectives (UK-ICER=£6,923/QALY; USA-ICER=£65,786/QALY). One year’s unselected testing could prevent 199 BC/OC-cases and 236 deaths in UK-women; and 523 BC/OC-cases and 581 deaths in USA-women. **Conclusion** Unselected panel-germline and somatic BRCA-testing is currently not cost-effective but becomes cost-effective if PARP-i costs fall by 32%-33% or OS reaches HR=0.28. Regarding germline-testing, unselected panel-germline testing is highly cost-effective and should replace BRCA-testing alone.
CLINICAL SIGNIFICANCE OF HER2/NEU, IMMUNOHISTOCHEMICAL PROFILING OF EPITHELIAL OVARIAN TUMORS

Ahmet Cataldegirmen, 1Umran Kucukgoz Gulec, 1Ahmet Baris Guzel, 1Ghanim Khatib, Serma Paydas, 3Emine Klici Bagir, 3Mehmet Ali Vardar, 1Çukurova University Faculty of Medicine, Adana, Turkey; 1Obstetrics and Gynecology, Çukurova University Faculty of Medicine, Adana, Turkey; 1Medical Oncology, Çukurova University Faculty of Medicine, Adana, Turkey; 3Pathology, Çukurova University Faculty of Medicine, Adana, Turkey; 1Gynecologic Oncology, Çukurova University Faculty of Medicine, Adana, Turkey

Introduction/Background This study aimed to determine the expression of HER2/neu, MUC1, estrogen and progesterone receptors immunohistochemically and investigate its effects of the expressions of these markers on clinical-pathological features and prognosis in ovarian cancer.

Methodology The study group consisted of 86 patients diagnosed for epithelial ovarian cancer at Çukurova University Faculty of Medicine which were operated between June 2009 and November 14, 2018. Of these 86 patients; 46 of them are high grade serous ovarian cancer, 7 of them are low grade serous ovarian cancer, 14 of them are mucinous carcinoma, 19 of them were in the histopathological type of clear cell carcinoma. MUC1, HER2/neu, Estrogen, Progesterone antibodies were applied immunohistochemically to pathological samples of the patients and the expression status of these markers, relationship between clinical-pathological features and prognosis were analyzed by statistical methods.

Results In all patients the low grade serous ovarian cancer and clear cell carcinoma groups MUC1 stained strongly positive. The frequency of MUC1 positive staining was lower in mucinous carcinoma; but it was observed that in high grade serous ovarian cancer it was higher (p<0.01). Half of the mucinous carcinoma group HER2/neu stained strongly positive. In the high grade serous ovarian cancer pathology group who were resistant to platinum therapy estrogen receptor was found to be positive in all 16 patients. Conclusion High positive staining of MUC1 was determined in low grade serous ovarian cancer and clear cell carcinoma group patients. The higher estrogen-progesterone receptor expressions in platinum resistant patients in high grade serous ovarian cancer group, the detection of HER2/neu positivity in half of the population in the mucinous carcinoma group is an important result of this study. For targeted therapy results should be taken into account in these epithelial ovarian cancers which are difficult to manage.

Int J Gynecol Cancer 2022;32(Suppl 2):A1–A504
A323