**Effect of genetic testing results on patient reported quality of life among patients undergoing panel testing for newly diagnosed ovarian cancer**

**Background**: This study compared patient-reported stress, anxiety, and depression between newly diagnosed ovarian cancer patients with pathogenic genetic testing results versus patients with non-informative results (i.e., variants of uncertain significance (VUS) or negative).

**Methods**: Patients underwent genetic testing (GT) via a facilitated referral pathway (Frey et al, Gynecol Oncol 2020) through which they were referred for genetic counseling and GT by their gynecologic oncologist within six weeks of diagnosis from 10/2015 to 5/2019. English-speaking patients completed three quality of life (QoL) instruments: Impact of Events Scale (IOES), State-Trait Anxiety Questionnaire (STAI), Hospital Anxiety and Depression Scale (HADS) immediately pre-and post-GT and 6 months post GT. Two-way mixed ANOVA was performed to analyze effect of GT results on QoL over time with significance $p<0.05$.

**Results**: One hundred ten patients were enrolled in the pathway and 83 (76%) patients underwent GT. Among these, 15 (18%) had potentially actionable pathogenic mutations (*BRCA1*-8, *BRCA2*-4, *MSH2*-2, *MRE11A*-1); 26 (31%) had VUS results; 3 (4%) had both a pathogenic mutation and a VUS result; and 42 (51%) had negative results. Sixty patients (72%) completed QoL assessments pre and post GT, and 37 (44%) patients at 6-9 months post GT. For all patients, GT results did not affect QoL scales across our time points. By mean scores across all-comers, patients demonstrated mild stress at each time point and clinically significant anxiety immediate post-GT. All patients had a statistically significance decrease in HADS depression scores over time from pre-GT to 6 months post-GT (mean score 4.98 vs 2.97, $p=0.020$).

Patients with VUS had lower HADS mean anxiety scores across time (3.62) compared to patients with pathogenic (7.44) or negative mutations (6.83, $p=0.029$). For patients without mutations, there was a significant decrease in clinically significant anxiety by STAI-state score at 6 months ($p=0.002$) and a decrease in borderline anxiety by HADS scores at 6 months ($p=0.005$). This effect was not present for patients with pathogenic mutations or VUS.

**Conclusion**:
A pathogenic result does not impact QoL scales immediately pre or post GT or at 6 months post GT, though patients with negative mutations were more likely to show a decrease in anxiety over time. Patients should be recommended GT at time of diagnosis of ovarian cancer without concern of increased stress, anxiety, or depression based on GT results.