Poster #17 | Response to chemotherapy after treatment with a Poly(ADP-ribose) polymerase inhibitor for patients with epithelial ovarian cancer

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Topic: Ovarian

Objectives
To determine if women with epithelial ovarian cancer (EOC) treated with a PARPi have a diminished response to subsequent platinum-based chemotherapy (PBC) compared to PARPi-naïve historical controls given potential overlap in mechanisms of resistance.

Methods
This was a retrospective cohort study of women with EOC who received a PARPi between 09/01/2013 and 05/31/2021 in a managed care setting, followed by post-PARPi chemotherapy and subsequent disease recurrence. PARPi resistance was defined as progression during PARPi therapy. Second overall response rate (2ORR) and second progression free survival after post-PARPi chemotherapy (2PFS) are reported. Nonparametric Wilcoxon ranks-sum tests were used to compare non-normally distributed continuous variables. Binomial proportion and one sample median tests were used for exploratory comparison of 2ORR and 2PFS respectively with historical data.

Results
A total of 253 patients with EOC received a PARPi during the pre-specified dates and were eligible for inclusion. Of these, 141 were not yet evaluable for outcomes from subsequent therapy. A total of 112 patients were evaluable for secondary outcomes following PARPi as front-line maintenance (FLMaint, 18, 16.1%), second-line or higher maintenance (2LMaint, 52, 46.4%) or treatment (41, 37.5%). Within this cohort, PARPi resistance was documented in 94.4% of these patients during FLMaint, 92.3% during 2LMaint, and 97.6% during treatment (p=.538). Of the 106 patients with PARPi resistance, half went on to receive PBC. 2ORR to post-PARPi PBC was 43.4% and median 2PFS was 7.8 months. There were insufficient numbers of PARPi-sensitive patients to include in our analysis (n=6). With future inclusion of additional patients completing post-PARPi therapy, the 2ORR and 2PFS of PARPi-resistant/sensitive patients will be updated and compared to PARPi-naïve historical controls.

Conclusions
We hypothesize that PARPi resistance is associated with relative resistance to subsequent PBC and will better elucidate this relationship with the planned inclusion of additional subjects. This hypothesis, if confirmed, may be important for future treatment paradigms and may contribute to the lack of advantage in overall survival observed in many PARPi studies.

Abstract Table or Graph
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