Poster 51: Predictors of response to mirvetuximab soravtansine in ovarian cancer: A single-institution retrospective study

Presenting Author: Danielle Greenberg, , University of California, Irvine

Topic
Ovarian

Objectives
Since its Food and Drug Administration approval in 2022, mirvetuximab soravtansine (MIRV) has been rapidly adopted as a preferred agent in platinum-resistant ovarian cancer (PROC). However, predictors of response in real-world populations remain incompletely defined. This study evaluates clinical and molecular factors associated with overall response rate (ORR) in patients treated with MIRV at a single institution.

Methods
A retrospective cohort study was conducted of all patients with PROC at a single institution that were treated with MIRV between 2018-2024. The primary outcome was ORR, defined as complete or partial response by clinician assessment. Patients were categorized as responders versus non-responders. Clinical, demographic, and molecular variables were assessed in responders versus non-responders using Wilcoxon rank-sum tests and Fisher's exact tests.

Results
A total of 38 patients were included, of whom 13 (34%) were responders. Responders were younger (median 58 vs 62 years, p = 0.049) and more frequently had an Eastern Cooperative Oncology Group (ECOG) performance status of zero at diagnosis. (ECOG 0: 92.3% vs 44.0%, p = 0.010). Responders were also more likely to have a higher number of prior treatment lines (median 3 lines vs 1 line, p = 0.048). Prior PARP inhibitor (PARPi) exposure was more common among responders (84.6% vs 40.0%, p = 0.015) but no significant differences were observed based on BRCA status (p = 0.595), HRD status (p = 0.678), or prior bevacizumab exposure (p = 0.486). FOLR1 expression beyond 75% (75-85% vs >85%) was not associated with response (p = 0.145).

Conclusions
In this real-world cohort, MIRV continued to show efficacy in heavily pretreated individuals. Interestingly, ORR was not associated with increased FOLR1 expression beyond the 75% threshold. However, prior PARPi use, but not BRCA and HRD status, was associated with ORR suggesting a possible relationship between PARPi exposure and subsequent MIRV susceptibility.

Uploaded File(s)
Abstract Table or Graph
INEXBPJK-2394857-1-ANY.pdf