Poster #16 | The role of DNA methyltransferase inhibitors (DNMTi) in the treatment of patients with recurrent epithelial ovarian cancer: a systematic review and meta-analysis

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Topic: Ovarian

Objectives
Recurrent epithelial ovarian cancer is incurable and lethal. Therefore, novel therapeutic options for this patient population are needed. Epigenetic changes, such as hypermethylation, is a cornerstone of cancer initiation and progression. Therefore, hypomethylating agents, such as DNA methyltransferase inhibitors (DNMTis), have become novel drug targets. We performed a systematic review and meta-analysis to explore the safety and efficacy of DNMTi in the treatment of recurrent epithelial ovarian cancer.

Methods
We conducted a comprehensive search of several databases (OVID, MEDLINE, Cochrane Central Register of Controlled Trials, Clinicaltrials.gov, and Scopus) through January 20, 2022, without language restrictions. Studies were screened by two independent reviewers, and differences were resolved by consensus. The random effect model using the OpenMeta (2007) software was used to analyze prevalence of adverse events, overall survival, progression free survival, objective response rate, and clinical benefit ratio.

Results
Eight studies were included for the systematic review and meta-analysis. Safety outcomes including grade 3+ adverse events by the NCI-CTCAE and efficacy outcomes including overall survival, progression free survival, objective response rate, and clinical benefit ratio were analyzed using a random effects model. Overall estimated demonstrate that the different DNMTis were well-tolerated by women with recurrent epithelial ovarian cancer and may provide a clinical benefit.

Conclusions
The findings of this systematic review and meta-analysis demonstrate that DNMTi in women with recurrent epithelial ovarian cancer is well-tolerated and may demonstrate clinical benefit. Given the poor prognosis of recurrent ovarian cancer, novel advancements in therapeutic options is critical. These findings from the Phase I and II clinical trials provide the foundation for further clinical trials, which may offer patients and providers another treatment option for an aggressive and currently incurable cancer.