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Review

Efficacy of cancer vaccines in selected gynaecological breast and ovarian cancers: A 20-year systematic review and meta-analysis

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Abstract Background: Therapeutic cancer vaccination is an area of interest, even though promising efficacy has not been demonstrated so far.

Design: A systematic review and meta-analysis was conducted to evaluate vaccines' efficacy on breast cancer (BC) and ovarian cancer (OC) patients. Our search was based on the PubMed electronic database, from 1st January 2000 to 4th February 2020.

Objective: response rate (ORR) was the primary end-point of interest, while progression-free survival (PFS), overall survival (OS) and toxicity were secondary end-points. Analysis was performed separately for BC and OC patients. Pooled ORRs were estimated by fixed or random effects models, depending on the detected degree of heterogeneity, for all studies with more than five patients. Subgroup analyses by vaccine type and treatment schema as well as sensitivity analyses, were implemented.

Results: Among 315 articles initially identified, 67 were eligible for our meta-analysis (BC: 46, 1698 patients; OC: 32, 426 patients; where both BC/OC in 11). Dendritic-cell and peptide vaccines were found in more studies, 6/10 BC and 10/13 OC studies, respectively.

In our primary BC analysis (21 studies; 428 patients), the pooled ORR estimate was 9% (95%CI[5%,13%]). The primary OC analysis (12 studies; 182 patients), yielded pooled ORR

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