

Bevacizumab (Avastin®) in addition to standard chemotherapy for the first-line treatment of ovarian cancer

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Bevacizumab (Avastin®) is a recombinant monoclonal antibody that inhibits growth and maintenance of tumour blood vessels by binding to the vascular endothelial growth factor (VEGF). Among various other indications, it is licensed by the EMA for the front-line treatment of adult patients with advanced (FIGO stages IIIB, IIIC and IV) epithelial ovarian, fallopian tube, or primary peritoneal cancer (since 2011). To date, bevacizumab is not approved for the first-line treatment of patients with ovarian cancer by the FDA.

To evaluate the efficacy and safety of the addition of bevacizumab to standard chemotherapy in patients with advanced ovarian cancer, two randomised controlled trials, ICON7 and GOG-0218, were included in this report. Although both trials initially showed an improvement of progression-free survival (PFS) when bevacizumab was added to standard chemotherapy, the overall benefit for the patients was modest. In the ICON7 trial, an updated analysis (results published in 2015) even showed no difference in PFS between the treatment groups. Regarding overall survival (OS), there was no significant difference between the treatment groups in both trials: in the ICON7 trial, a gain of 0.9 months in restricted mean survival has been shown; patients of the GOG-0218 trial did not achieve any gain in OS by receiving study treatment. However, the benefits in OS and PFS were greater among patients who had a high risk for progression than in lower-risk patients. The benefit in restricted mean survival time for high-risk patients of the ICON7 trial was 4.8 months when bevacizumab was added to standard chemotherapy. There were no significant differences in the quality of life of patients between the treatment groups of both trials. Adverse events (AEs) were more frequent in patients who received additional bevacizumab compared to standard chemotherapy.

The addition of bevacizumab to standard chemotherapy in patients with advanced ovarian cancer showed no survival benefit in the overall study population. However, high-risk patients with a poor prognosis achieved a benefit in OS, although it has to be considered that the increase is based on data of the ICON7 trial using an unlicensed dose of bevacizumab. Furthermore, the improvements in PFS are not statistically significant. Hence, high additional costs and increased AEs stand in contrast to modest efficacy improvements. However, the impact of any prolongation of the patient's life might be relevant, even if the addition of bevacizumab is not associated with an improved quality of life. Since the ICON7 trial was conducted with an unlicensed dose of bevacizumab, it is difficult to assess the applicability of the results and, not least, their impact on the treatment costs.

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