



A New Treatment Option for Low-Grade Serous Ovarian Cancer By Erika Bell, Ph.D., Manager of Cancer Information and Education

Low-grade serous ovarian cancer is an uncommon type of ovarian cancer that became recognized as its own disease in 2004. Unlike the more common high-grade form of epithelial ovarian cancer, low-grade serous ovarian cancer tends to be slower growing and therefore resistant to traditional chemotherapy treatment. Effective treatment options for this rare form of ovarian cancer are limited, and as a result, more than 70% of patients experience a recurrence after initial treatment. More research is clearly needed to identify new therapies for this disease.

The GOG 281/LOGS clinical trial investigated the use of a targeted therapy, trametinib, to treat recurrent, low-grade serous ovarian cancer. Prior to this trial, the standard-of-care treatment options for recurrent low-grade serous ovarian cancer included chemotherapy drugs and hormonal therapy drugs that block estrogen signaling (i.e., tamoxifen or an aromatase inhibitor). Trametinib is a novel, oral drug that blocks a particular protein signaling pathway in the cell called the MAPK pathway. Researchers chose to investigate this drug as a treatment option for low-grade serous ovarian cancer because it has previously been shown that many low-grade serous cancers have activating mutations in the MAPK pathway. The GOG 281/LOGS trial compared the effectiveness of trametinib to the standard of care options.

Two hundred and sixty patients with recurrent, low-grade serous ovarian cancer were enrolled in this international clinical trial. Half of them were treated with trametinib and half were treated with the standard of care (chemotherapy or hormonal therapy). Patients were followed over time with imaging scans to assess whether their cancer had progressed. On average, women in the trametinib treatment group remained on treatment for 13 months before their cancer grew, compared to 7.2 months for the women in the standard-of-care group. In other words, trametinib extended progression-free survival by 5.8 months compared to the standard of care. The most common side effects associated with



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trametinib treatment were skin rash (13% of patients), anemia (13% of patients), high blood pressure (12% of patients), diarrhea (10% of patients), nausea (9% of patients), and fatigue (8% of patients). Thirty-six percent of patients stopped trametinib treatment due to side effects, compared to 30% of patients in the standard-of care-group. There was no clinically significant difference in quality of life between the two treatment groups.

The GOG 218/LOGS clinical trial is the first randomized clinical trial to show positive results with a drug that targets the MAPK pathway in low-grade serous ovarian cancer. Trametinib improved progression-free survival without worsening quality of life.

Based on these results, trametinib is now considered a new standard-of-care treatment option for patients with recurrent, low-grade serous ovarian cancer.

Reference:

[Gershenson DM et al., Trametinib versus standard of care in patients with recurrent low-grade serous ovarian cancer \(GOG 281/LOGS\): an international, randomized, open-label, multicentre, phase 2/3 trial. Lancet. 2022 Feb 5;399\(10324\):541-553.](#)