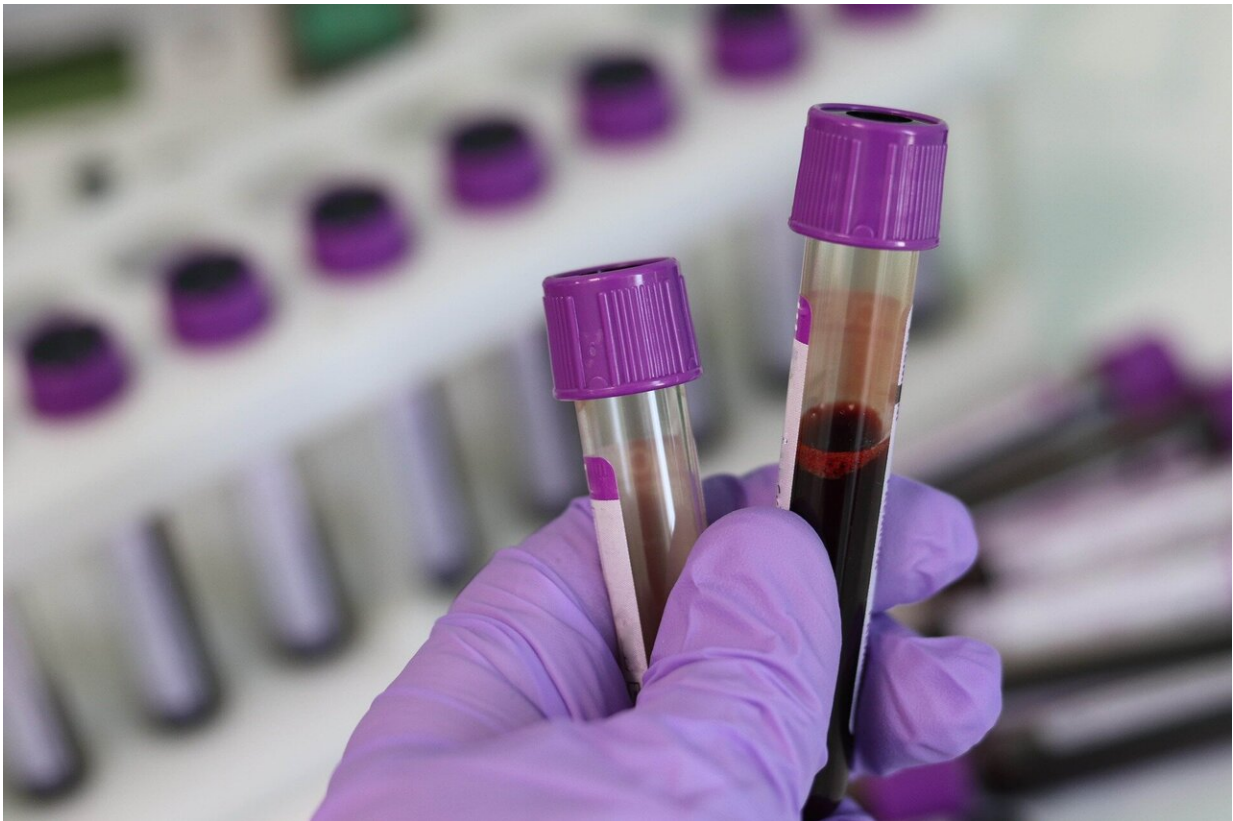# New biomarker test improves diagnosis of ovarian cancer

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Credit: CC0 Public Domain

The majority of women who undergo surgery for suspected ovarian cancer do not have cancer. A novel blood test developed by researchers at Uppsala University and the Sahlgrenska Academy, University of

Gothenburg, now offers the possibility of more precise diagnostics without the need for surgery. This could lead to a reduction in unnecessary surgery and to earlier detection and treatment for affected women. The study was recently published in *Communications Biology*.

Ovarian cancer is often discovered at a late stage and has a high mortality rate. Out of 10 patients, only three or four survive five years after treatment, and there has been no test specific enough to justify screening. Women with accidental findings of an ovarian cyst or with symptoms instead undergo ultrasound, and if abnormalities are observed, surgery is the only way to make sure all cancers are detected. This means that many women without cancer have unnecessary surgery, resulting in increased risks.

"We need to develop more accurate pre-surgery diagnostics. To detect one cancer, we operate on up to five women—yet this is currently the best option when abnormalities are detected by ultrasound and cancer is suspected. There is a great need for a simple blood test that could identify women who do not need surgery," says Karin Sundfeldt, professor and senior consultant at the Department of Obstetrics and Gynecology, Institute of Clinical Sciences at Sahlgrenska Academy, University of Gothenburg.

In the published study, the researchers developed a biomarker blood test based on analysis of 11 proteins. The test is used when ultrasound indicates abnormalities, identifying women without cancer. This could reduce unnecessary surgery from one in five patients to one in three, also greatly reducing the risk of complications related to surgery.

The biomarker profile can also detect borderline cases and early stages of the disease.

"Our results are promising enough to consider screening for early

discovery of ovarian cancer. In Sweden, we have long experience of screening for cervical cancer. I see great prospects of developing a strategy for screening for ovarian cancer, as well, which could save lives and minimize the need for surgery to rule out cancer," says Ulf Gyllensten, Professor of Medical Molecular Genetics at the Department of Immunology, Genetics and Pathology at Uppsala University.

The paper, published in the open access journal *Communications Biology*, presents a new test that has been developed in collaboration with Uppsala-based biotech company Olink Proteomics AB.

"We are now continuing to evaluate the test and are performing a large-scale study of samples collected at all hospitals from the western region and Halland healthcare system," says Gyllensten.

More information: High throughput proteomics identifies a high-accuracy 11 plasma protein biomarker signature for ovarian cancer, *Communications Biology*, 2019, DOI: 10.1038/s42003-019-0464-9

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