

New method enables the early detection of ovarian cancer

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Every year, around 1,000 women in Austria develop the extremely aggressive condition known as ovarian cancer. Around 75 per cent of these tumours arise from the fallopian tube. There are currently no options for detecting this condition early or preventing it. With the help of an innovative, "three-way" catheter developed by Paul Speiser from the University Department of Gynaecology at the MedUni Vienna and the Molecular Oncology working group, along with a new investigation concept associated with it, this situation may be different in the future. This is the hope from the first results of a study, which has now been published in the highly respected *Journal of Clinical Oncology*.

"Currently there are only two types of cancer in which the early detection methods of the American Prevention Task Force can be rated with an 'A' for 'extremely' targeted", says Speiser, who is also a member of the Comprehensive Cancer Centre (CCC) at the MedUni Vienna and the Vienna General Hospital, "Namely cervical cancer and <u>colorectal</u> <u>cancer</u>. Our development could add a third type of cancer to this list".

Speiser has developed a catheter which prevents irrigation liquid from draining into the abdominal cavity and which can be harvested virtually painlessly.

The recently published study showed that, when ovarian cancer was present, tumour cells were found in the irrigation fluid in 80 per cent of cases. For one test subject who had already decided to have prophylactic removal of her ovaries, a type of next-generation sequencing ("smart



sequencing" / analysis of genetic changes in DNA) performed on the irrigation fluid obtained was able to detect an occult, or hidden, carcinoma. "These results encourage the hope that at least early detection will soon be possible," explains Speiser.

This is an important development, since ovarian cancer has virtually no symptoms and is only discovered very late in around three-quarter of all cases. At a late stage, <u>ovarian cancer</u> is associated with a very poor prognosis in terms of the patient's life expectancy.

The study was initiated and managed by the MedUni Vienna and organised in cooperation with centres in London, Dublin, Milan, Graz, Berlin, Hamburg, Prague, Pilsen, Leuven and Essen. This and other studies are also being carried out in close collaboration with Bert Vogelstein from the Johns Hopkins University in Baltimore. The scientists' aim is to develop the removal of irrigation fluid and its analysis so that it "can be easily used in every hospital and in every gynaecology department", says Speiser. Other studies are also expected to show whether it is possible to detect tumours or their early stages (STIC) using this method and to possibly prevent the disease from progressing at all.

More information: E. Maritschnegg et al. Lavage of the Uterine Cavity for Molecular Detection of Mullerian Duct Carcinomas: A Proofof-Concept Study, *Journal of Clinical Oncology* (2015). <u>DOI:</u> <u>10.1200/JCO.2015.61.3083</u>

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