Annika Strandell - Summary on Ovarian Cancer Research

Ovarian cancer, a deadly yet relatively rare disease, impacts approximately “2% of women" in Sweden. Meaning “about 600 {women} are diagnosed with ovarian cancer per year” according to Annika Strandell. A scientist developing research on the impacts of Opportunistic salpingectomy for prevention of ovarian cancer in women. Strandell began her research career in the 90s, initially dedicating her research to infertility. One of the main themes of her research was salpingectomy, a treatment for a special condition to enhance the chances to get pregnant in IVF. However, approximately two decades ago, she attended a fertility congress which inspired her to transfer her research to the field of ovarian cancer instead.

Ovarian cancer is a spectrum of multiple cancers, some more severe than others. Strandell has based her research on one particular type, High Grade Serous Epithelial Ovarian Cancer, in simpler terms HGSC, a “very silent” cancer with “vague symptoms”. Resulting in “About 50% {of women} not survive{ing} five years after diagnosis”. As a result of this cancer not having any prominent symptoms, it is diagnosed when it is often too late to cure the patient. Consequently, there has been a lot of research for early detection, such as biomarkers, blood tests or transvaginal ultrasound for examination of the ovaries. However, “none of these examinations have proved to be good enough to pinpoint this diagnosis at an early stage”. The late diagnosis and poor survival rate are two main reasons for finding preventive measures, which her project is about.

HGSC, “has been believed for many decades {to} develop in the ovary itself.” A publication in a scientific journal eighteen years ago introduced a new theory. The author suggested, “that very early precancerous lesions could develop in the fallopian tube”, then spread to the ovary. This was quite a new way of thinking. So today, after multiple publications and debates, it is considered to be a theory that holds.

Annika Strandell’s project is about researching a procedure called opportunistic salpingectomy; “a surgical procedure where a woman's fallopian tubes are removed in conjunction with abdominal gynaecological surgery for another benign reason” in order to decrease the chances of developing HGSC. According to Strandell, in simple terms, scientists thought that “if we remove the tubes, then this woman cannot develop ovarian cancer”. This preventive surgery could be recommended, for example, if a woman is undergoing a hysterectomy for any benign reasons such as heavy menstruation or large fibroids. Opportunistic salpingectomy could also be considered instead of tubal ligation for sterilisation.

Today, some countries recommend opportunistic salpingectomy, while others, including Sweden, have been more careful and chosen to await the results of scientific trials. The risks associated with opportunistic salpingectomy are yet insufficiently studied. The aims of Strandell’s project are to prove that the risks are not increased when performing opportunistic salpingectomy at hysterectomy and sterilisation and that the risk of future epithelial ovarian

cancer will decrease. Annika Strandell is the principal investigator for two ongoing national surgical trials; HOPPSA (Hysterectomy and OPPortunistic SAlpingectomy) and SALSTER (SALpingectomy for STERilisation).

“You have the benefit, on one hand, of possibly decreasing ovarian cancer by doing a salpingectomy, and you have the potential risks of surgical complications and hormonal disturbances. We do not know so much about the potential risks and that's why we need to do a proper study. So we can tell the woman what the risks are, and the woman can decide if she agrees to have her tubes removed or not. So that's what our project is about.” explains Annika Strandell.

One of the risks Strandell’s team wants to study is the surgical complications of performing an additional surgical procedure. Another important risk to study is the potential effect on the ovarian circulation when operating close to the ovary, possibly impairing the hormonal regulation, leading to early menopausal symptoms. It is important to gain this knowledge to inform women so they can decide upon opportunistic salpingectomy, since they may evaluate risks very differently.

To conduct the project, Strandell and her team will register the patient in a gynaecological surgery register. This is a register of almost all women who undergo any gynaecological surgery in Sweden. All patients in the register will have a preoperative questionnaire, an eight week and a one-year postoperative questionnaire. However, for this trial, Strandell has used this system, and added additional questions to the questionnaires. For examples; “How old were you when you had your first menstruation? How many child births have you had? For how long did you breastfeed the children? Have you used contraceptive pills?” which are factors important for developing ovarian cancer. Furthermore, the post-operative questionnaire will provide data about complications. Moreover, Strandell’s team has added “a scale that measures menopausal symptoms”, that will be recorded before and after surgery for several years. Finally, the results from the group with salpingectomy will be compared to the group without salpingectomy in order to detect any differences in menopausal symptoms and other complications.

After the trials have been conducted, Strandell’s team will answer the question “is salpingectomy safe?”, if it is, then it will be recommended to remove the fallopian tubes. The cancer register will be used for the long-term term follow-up, where the groups with and without salpingectomy will be compared regarding ovarian cancer. The answer to whether opportunistic salpingectomy will reduce the risk of ovarian cancer will not be available for approximately 20 years.

Hopefully, this intervention of opportunistic salpingectomy will be proven safe, and the surgical prevention of ovarian cancer can be established and help to decrease the high death rate of HGSC. Annika Strandell’s research project will contribute with needed research to the ovarian cancer field.

Annika Strandell was interviewed by Elsa Samrud Sage.