**How does robot-assisted surgery in early cervical cancer affect oncologic outcome?**

In Sweden, approximately 550 cervical cancers are diagnosed per year of which 65% allows primary surgery[1]. The standard treatment for early stage cervical cancer is radical hysterectomy with pelvic lymphadenectomy. **Radical trachelectomy is an option, if tumours <2cm, in patients interested in future fertility.** Robotic surgery for gynecological cancer was introduced in Sweden 2005 and the technique gradually replaced open surgery for cervical cancer.

Two recent publications have raised concerns regarding oncologic safety of robot-assisted radical hysterectomy (RRH). They showed an inferior survival after RRH compared to open radical hysterectomy [2, 3]. To investigate the results in Sweden we included 864 in our nationwide study No survival difference between robotic and open radical hysterectomy for women with early-stage cervical cancer (published 2019). We did not find an inferior survival rate in robotic surgery compared to open surgery [4]. This raises the question of a learning curve in RRH that would benefit from a centralized system of care. To study a possible learning curve 659 RRH performed in Sweden from 2005 until 2017 were analysed. We divided the material into early and late cohorts per institution. We found that increased experience of RRH reduces the rate of recurrence in women where no adjuvant radiochemotherapy is given. This publication Increased surgical experience in robot-assisted radical hysterectomy for early stage cervical cancer decreased rate of recurrences is waiting submission [5].

Sentinel lymph node (SLN) detection may be performed more accurately with the robotic system compared with open surgery. To investigate if combining two independent tracers increased the SLN-detection rate in cervical cancer we studied 65 patients in Combining Indocyanine Green and Tc(99)-nanocolloid does not increase the detection rate of sentinel lymph nodes in early stage cervical cancer compared to Indocyanine Green alone (published 2019) [6]. A further study is planned to evaluate the SLN-concept. The SLN-concept would minimize the risk of lower limb lymphedema in patients after RRH and Robotic radical trachelectomy.

The aim of another ongoing study is to combine material from five sites in Sweden, USA, England and South Korea to evaluate the fertility, obstetric and oncologic outcome after robot-assisted radical trachelectomy.


