

Robotic surgery for endometrial cancer

Akademisk avhandling

Som för avläggande av medicine doktorsexamen vid Sahlgrenska akademien, Göteborgs universitet kommer att offentligens försvaras på Hälsovetarbacken, sal 2119, Arvid Wallgrens backe, hus 2, entré F, den 7 maj, kl. 9.00

av Anna Lindfors

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Avhandlingen baseras på följande delarbeten:

- I. Eklind S, Lindfors A, Sjöli P, Dahm-Kähler P.
A prospective, comparative study on robotic versus open-surgery hysterectomy and pelvic lymphadenectomy for endometrial carcinoma. *Int J Gynecol Cancer* 2015, Feb;25(2):250-6
- II. Lindfors A, Åkesson Å, Staf C, Sjöli P, Sundfeldt K, Dahm-Kähler P.
Robotic vs Open Surgery for Endometrial Cancer in Elderly Patients: Surgical Outcome, Survival, and Cost Analysis. *Int J Gynecol Cancer*. 2018 May;28(4):692-699
- III. Lindfors A, Heshar H, Adok C, Sundfeldt K, Dahm-Kähler P.
Long-term survival in obese patients after robotic or open surgery for endometrial cancer. *Gynecol Oncol*. 2020 Sep;158(3):673-680
- IV. Lindfors A, Järvholm S, Dahm-Kähler P.
Health-Related Quality of Life after Robotic Surgery for Endometrial Cancer – a Prospective Longitudinal Follow-up. *Submitted*

SAHLGRENKA AKADEMIN
INSTITUTIONEN FÖR KLINISKA VETENSKAPER



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Endometrial cancer (EC) is the most common gynecological malignancy. A large proportion of patients present with the risk factors high age and obesity, which puts them at increased risk when undergoing surgery. The last decades, robotic surgery has become the preferred method of treating EC in many settings, instead of open surgery that was the traditional method. We aimed to investigate robotic surgery in women with EC with regard to surgical outcomes, costs, survival, and health-related quality of life (HRQoL), with special focus on obese and elderly patients. Robotic surgery was compared to open surgery in observational cohort studies, and effects on HRQoL was followed longitudinal after surgery. Robotic surgery resulted in significantly less peri-operative blood loss, even in the elderly and obese patients, compared to open surgery. Length of hospital stay was reduced after robotic surgery, with a median length of 2 vs 5 days for the elderly and 1 vs 5 days for the obese patients. The relative risk of postoperative complications (CD grade II–V) was 0.54 (95% confidence interval (CI) 0.31–0.93) after robotic compared to open surgery in the obese patients. In the elderly patients, robotic surgery reduced the CD grade II complication rate from 22% to 10% ($p=0.006$) compared to open surgery. There was no significant difference in mean costs between the surgical modalities. Overall survival in the elderly patients was 69% (95% CI 62–78) for the open surgery group and 77% (95% CI 68–86) for the robotic surgery group. For the obese patients, OS was 76% (95% CI 67–85) vs 87% (95% CI 82–93) for the open and robotic surgery group, respectively. In a multivariable analysis of OS in the obese cohort, surgical modality was not found to be an independent risk factor. When analyzing HRQoL, patients' global health status was significantly lower 2 weeks after surgery and returned to baseline levels at 3 months. The proportion of patients scoring above the clinical threshold (≥ 10) for anxiety and depression was 27% and 20% at baseline; but returned to levels equivalent those found in women in the general population after 2 weeks. These results indicate that robotic surgery should be the recommended surgical modality in treating women with EC, including obese and elderly women.

Keywords: Endometrial cancer, robotic surgery, elderly, obese, health-related quality of life