

The importance of life-style factors for the outcome of gynaecological surgery

Akademisk avhandling

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Universitetssjukhuset i Linköping, Sverige

Avhandlingen baseras på följande delarbeten

- I. Bohlin, K.S., Ankardal, M., Pedroletti, C., Lindkvist, H., Milsom, I.
The influence of the modifiable life-style factors body mass index and smoking on the outcome of mid-urethral sling procedures for female urinary incontinence.
Int Urogynecol J. 2015 Mar; 26(3):343-51
- II. Bohlin, K.S., Ankardal, M., Stjernedahl, J-H., Lindkvist, H., Milsom, I.
Influence of the modifiable life-style factors body mass index and smoking on the outcome of hysterectomy.
Acta Obstet Gynecol Scand. 2016 Jan; 95(1):65-73
- III. Bohlin, K.S., Ankardal, M., Lindkvist, H., Milsom, I.
Factors influencing the incidence and remission of urinary incontinence after hysterectomy. *Am J Obstet Gynecol. 2017 Jan; 216 (1):53.e1-53.e9.*
doi:10.1016/j.ajog.2016.08.034
- IV. Bohlin, K.S., Ankardal, M., Nüssler E., Lindkvist, H., Milsom, I.
Factors influencing the outcome of surgery for pelvic organ prolapse.
Submitted

**SAHLGRENKA AKADEMIN
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The importance of life-style factors for the outcome of gynaecological surgery

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Abstract

Background: Hysterectomy (HT), urinary incontinence- (UI) and pelvic organ prolapse (POP) surgery are common surgical procedures in women with benign disorders and more than 16 000 procedures are performed annually in Sweden. To identify factors associated with a greater risk for an unsuccessful outcome is important and in particular factors that can be modified before surgery. The aim of this thesis was to analyse the influence of modifiable life-style factors such as high body mass index (BMI) and smoking on the outcome of hysterectomy, UI- and POP surgery.

Materials and Methods: Data was collected during the years 2004-2015 from the Swedish National Register for Gynecological Surgery including 6 308 midurethral sling procedures (MUS), 28 537 HT and 20 689 POP operations. The rate of obesity (BMI ≥ 30) ranged from 18-28% and smoking 9-18%. Multivariable logistic regression analyses were used to identify independent risk factors affecting per- and postoperative complications, change in UI status and subjective success with a follow-up of one year.

Results: In MUS, BMI ≥ 30 was associated with a higher risk of residual daily UI after surgery. In contrast, less peroperative complications were seen in women with BMI ≥ 25 than BMI < 25 . In HT, obesity was associated with a higher risk of excessive bleeding, prolonged surgery, per- and postoperative complications and postoperative infections. Smoking was associated with a higher risk of postoperative infection in abdominal and vaginal HT. One fifth of the women who underwent HT experienced a change in continence status. Obesity, vaginal delivery and urinary urge were identified as riskfactors of UI after HT. In POP surgery obesity was associated with a higher risk of a vaginal bulge and UI after surgery. The studied life-style factors did not influence patient satisfaction.

Conclusions: Obesity was associated with a negative influence on all studied surgical procedures and particularly an increased prevalence of UI after surgery and complications with HT. Smoking was associated with postoperative infections after abdominal and vaginal HT. Preoperative counselling should include information on the influence of life-style factors on surgical outcomes and offer life-style intervention programs.

Keywords: *Body mass index, obesity, smoking, hysterectomy, mid-urethral sling procedures, pelvic organ prolapse, complications, urinary incontinence, vaginal bulge*