Vaginal prolapse surgery
An epidemiological perspective

Studies of native tissue repair versus implants, surgeons´ practical experiences and five year follow-up in the Swedish National Quality Register for Gynecological Surgery

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Akademisk avhandling

som med vederbörligt tillstånd av Rektor vid Umeå universitet för avläggande av medicine doktorsexamen framläggs till offentligt försvar i Hörsal A, Unod T9, plan 9, Norrlands universitetssjukhus, fredagen den 22 november, kl 13:00.

Avhandlingen kommer att försvaras på svenska.

Fakultetsopponent: Professor Martin Stjernquist, professor i obstetri och gynekologi, Lunds universitet
Background
Pelvic organ prolapse (POP) is a common condition that impacts on quality of life for many women. The mean age of Swedish women operated for POP is 60 years. Therefore, sustainable long-term results of POP surgery are essential. In an effort to improve long-term outcomes of vaginal prolapse surgery, mesh materials have been developed for this purpose. In Sweden, synthetic mesh is used in 7.4% of all primary operations without any coherent consensus about their use. Prolapse surgery is regarded as a routine procedure performed at almost every hospital in Sweden, but a large proportion of the surgeons are inexperienced. Simultaneously, surgery for POP has been reported to have a high failure rate internationally.

The specific aims of these thesis were to examine mesh-augmented repairs impact on operative results compared to native tissue repair, surgical experience in performing a specific operation and utilize this knowledge in analysing how it may (or may not) affect operative results as well as examine the long-term (5 year) national follow up of POP operations, regarding both the objective epidemiological data and the patient-reported outcomes.

Methods
The comparative follow-up of POP surgery using non-absorbable polypropylene mesh versus colporrhaphy using native tissue was analysed in two different cohorts, of women with a primary cystocele and women with a relapse after surgery for a rectocele. Regarding surgical experience, operations were divided into four groups according to the operative experience of the surgeon. Both PROM results and surgeon-reported outcomes after 1 year were investigated. For the long-term follow-up 5 years after any operation for a vaginal prolapse, a new questionnaire to capture PROM data was designed, validated and nationally distributed, and remaining data were taken directly from the GynOp register.

Results
Mesh-augmented repair of a primary cystocele had a significantly better outcome in terms of absence of symptoms, compared with native tissue repair, OR 1.53 (95% CI 1.10-2.13), but also had more complications directly related to the procedure (OR 1.51, RD=6.6%). For recurrent rectocele, mesh was superior to native tissue repair, OR 2.06 (95% CI 1.03-4.35); the number of postoperative complications was equal in the two groups. Among the 1,092 surgeons who were active POP surgeons during the study, 803 (73%) participated in POP operations once a month or less frequently in their active years. No differences in patient or surgeon-reported outcomes were seen between the “experience groups”.

Conclusions
- Mesh-augmented repair is more effective than native tissue repair for recurrent rectocele, and without increased risk of complications. Drawbacks of mesh repair vary for other compartments, and for primary operations.
- Surgeons’ operative experience in routine POP operations using native tissue has no impact on outcome after 1 year.
- Long-term results of POP repair with native tissue are excellent, with a low risk of re-operation and a persistent absence of subjective symptoms.

Keywords
pelvic organ prolapse, Kaplan-Meier curves, long-term follow-up, quality register, questionnaire, patient reported outcome, cystocele, rectocele, colporrhaphy. non-absorbable mesh, surgical experience