Commentary on “Is antibiotic prophylaxis necessary in mid-urethral sling surgery”?

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Standard use of antibiotic prophylaxis in mid-urethral sling surgery may reduce the surgical site infection rate, but potentially at the cost of side effects and development of antibiotic resistance. Antibiotic prophylaxis is generally recommended for procedures in clean-contaminated sites (such as the vagina) and with the use of prosthetic material. The current study compared patient outcomes after mid-urethral sling surgery for female stress urinary incontinence with or without antibiotic prophylaxis in Norway [1].

Data on subjective and objective outcomes of 28,687 patients who had received mid-urethral sling surgery between 1998 and 2017 were extracted from the national Norwegian Female Incontinence Registry. Based on the clinical sites' policies on preoperative antibiotic application, 9,131 patients were included in the antibiotic prophylaxis group, whereas 19,556 patients were assumed not to have received antibiotic prophylaxis. Selected outcomes were “incidence of postoperative surgical site infection, [...] tape exposure, de novo or persistent urgency urinary incontinence, postoperative pain, subjective and objective cure rates, and patient satisfaction”. According to this study, surgical site infections and prolonged postoperative pain were significantly more frequent in the non-antibiotic prophylaxis group (1.2% vs 0.6% and 0.6% vs 0.4% respectively). On the contrary, patients of the antibiotic prophylaxis group reported lower subjective (77% vs 80%) and objective cure rates (88% vs 91%). Tape exposure rates were less frequent in the non-antibiotic prophylaxis group (1.1% vs 1.6%). Even though the surgical site infection

rate was significantly higher in the non-antibiotic prophylaxis group, the number needed to be treated to avoid one site infection was calculated to be as high as 166 (at a generally low incidence of 1.2%).

Results of this study indicate a significant benefit of antibiotic prophylaxis regarding surgical site infection rate, but with a high number needed to treat and thus potentially higher rate of negative side effects and risk for development of antibiotic resistance. The authors therefore conclude that “antibiotic prophylaxis can probably be omitted if a small increase in surgical site infections is accepted.” When interpreting this study we have to keep in mind that the Norwegian Female Incontinence Registry does not provide actual information if a patient received intraoperative antibiotics, but only if the included hospitals recommend the use according to internal policies. Regarding this bias, results of this study have to be interpreted with caution. Lastly, a randomized controlled trial is needed to fully answer the study question.

Reference

1. Svenningsen R, Kulseng-Hanssen S, Casanova Kråkenes EB, Schiøtz HA. Is antibiotic prophylaxis necessary in mid-urethral sling surgery? *Int Urogynecol J*. <https://doi.org/10.1007/s00192-020-04408-z>.

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