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Hysterectomy for benign indications in Finland

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ACADEMIC DISSERTATION

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ABSTRACT

In the 1990's and up until 2002, annual numbers of hysterectomies for benign disease in Finland exceeded 10 000; only cataract surgeries and cesarean sections were more commonly performed on women. Hysterectomy is traditionally performed through laparotomy, meaning abdominal hysterectomy (AH), which currently is still the most common surgical approach for hysterectomy worldwide. In Finland, as well, a national cohort of hysterectomy for benign disease in 1996 showed AH as being the most common method, with 58%, but unlike in other nations, laparoscopic hysterectomy (LH) was fairly common, and performed for as many as 24%. Current guidelines state, that vaginal hysterectomy (VH) should be performed in preference to AH when possible. When VH is not possible, LH may avoid the need for AH; but LH is associated with an increased risk for urinary tract injuries.

The aim of this study was to evaluate in a national setting the current trends of hysterectomy for benign disease, focusing on the incidence and risk factors for various complications. In addition, analysis concerns the coverage and effect of thrombosis and antibiotic prophylaxis. Prior to the national prospective FINHYST study in 2006, major complications of LH in 2000-2005 were analysed from the registers of the Patient Insurance Centre in Finland and compared to those of the previous decade. This register also served in verification of major complications involved in FINHYST, in which all 46 public hospitals where hysterectomies were performed collaborated, in addition to 7 private clinics. Detailed data were collected on intraoperative and on early- and late-onset postoperative complications. Risk factors for complications were analysed by logistic regression adjusted for confounders. In this thesis, also complications of FINHYST in 2006 were compared to the prospective national hysterectomy study in 1996, as a 10-year follow-up

Since 2002, annual numbers of hysterectomies for benign disease in Finland gradually declined, and in 2007-2010 remained stable at an average 5 750 per year. By method, VH has been the most common approach in Finland since 2002, and LH surpassed AH in 2005. Urinary tract injuries, particularly ureter injuries with LH, were reduced to 0.3% in 2000-2005, representing a nearly three-fold reduction since the 1990's. The FINHYST study in 2006, which covered 79.4% of national hysterectomies for benign disease, comprised 1 255 AHs (24%), 1 679 LHs (32%), and 2 345 VHs (44%), with respective overall complications occurring in 19.2%, 15.4%, and 11.7%, and major complications (organ injuries, reoperations or venous thromboembolism) in 4.0%, 4.3%, and 2.6%. No deaths occurred. Most bladder and bowel injuries were detected and repaired intraoperatively (88% and 83%).

Risk factors for complications overall were adhesiolysis (OR 2.48), uterine size of 500 g or more (OR 1.44), and concomitant surgery (OR 1.28). Major complication risk factors were adhesiolysis (OR 2.41), more specifically bladder injuries associated with caesarean section (OR 4.01) and uterine size of 500 g or more (OR 2.88). Postoperative infections were associated with those overweight (OR 1.61), obese (OR 1.67), or extremely obese (OR 1.82), compared to those of normal weight. Pharmaceutical thrombosis prophylaxis (TP) was given to 64.8%. TP was associated with postoperative haemorrhage or haematoma in VH performed for prolapse (OR 4.82), and in AH (OR 2.87).

Age of 55 or over reduced the risk for complications overall (OR 0.61), and for infections (OR 0.66); operative haemorrhage decreased with age. Antibiotic prophylaxis was given to 97.5%: cefuroxime alone to 38.5%, metronidazole alone to 9.9%, and metronidazole in combination with cefuroxime to 43.0%. Overall, 54% received metronidazole, which had no significant independent risk-reducing effect, nor any interactive effect when combined with cefuroxime, for total infections in any type of hysterectomy. Cefuroxime, however, had a risk-reducing effect (OR 0.29); also for all hysterectomy methods separately. No method was independently associated with complications, except for infections, for which AH, compared to LH, led to a risk for febrile events, wound infections, and urinary tract infections. Compared to AH, in both the hysterectomy methods (LH and VH) in which the vault is closed vaginally, the risk for pelvic infection was 5-fold.

In conclusion, while numbers of hysterectomies in Finland have declined, the minimally invasive methods have overtaken AH. Such a trend promoting faster recovery from surgery has reduced complications, particularly infections. The follow-up also showed a reduction in ureter injuries in LH, and bowel injuries in VH. During the time that VH became the most common method for hysterectomy, its complications nearly halved.

ORIGINAL PUBLICATIONS

- I Brummer TH, Seppälä T, Härkki P. National learning curve of laparoscopic hysterectomy and trends in hysterectomy in Finland 2000-2005. *Hum Reprod* 2008; 23(4): 840-845.
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- IV Brummer TH, Heikkinen A, Jalkanen J, Fraser J, Mäkinen J, Tomás E, Seppälä T, Sjöberg J, Härkki P. Pharmaceutical thrombosis prophylaxis, bleeding complications, and thromboembolism in a national cohort of hysterectomy for benign disease. Hum Reprod 2012; 27(6): 1628-36.
- V Brummer TH, Heikkinen A, Jalkanen J, Fraser J, Mäkinen J, Seppälä T, Tomás E, Sjöberg J, Härkki P. Antibiotic prophylaxis for hysterectomy, a prospective cohort study: Cefuroxime, metronidazole, or both? BJOG 2012, in press.

FULL TEXT: available at <http://ethesis.helsinki.fi>

<https://helda.helsinki.fi/bitstream/handle/10138/30240/Hysterec.pdf?sequence=1>

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