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Review article

Clinical outcomes in women undergoing laparoscopic hysteropexy: A systematic review

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ABSTRACT

Objectives: To systematically review the current evidence on the anatomic and functional outcomes in women undergoing laparoscopic hysteropexy.
Study design: An electronic database search was undertaken (2000–2016). Keywords were: "laparoscopy", "hysteropexy", "cervicopexy", "uterine suspension", "uterosacral plication". References of identified studies as well as abstracts from conferences were considered. We restricted the search to humans, female patients and currently used surgical procedures. Studies with ≥5 cases in English language and published in 2000 or later, were included. After the initial yield, studies were selected following title screening, abstract and full text scrutiny.
Results: A total of 17 studies were deemed suitable for inclusion in the review. A total of 770 patients in 17 studies received the intervention being studied (laparoscopic hysteropexy) and were assessed post-operatively with pooled success rates of 85.32% (95%CI: ±2.5). Laparoscopic suture hysteropexy has pooled success of 70.5% (95%CI: ±5.33) whereas the pooled success of the suspension to the sacral promontory using mesh or tape is 92% (95%CI: ±2.53). One small study on suspension to the anterior abdominal wall (28 cases) and one to the pectineal ligament (18 cases) have shown 96.4% (95%CI: ±6.9) and 94.5% (95%CI: ±10.53) objective success rates respectively.
Conclusion: Laparoscopic hysteropexy was associated with good anatomic cure rates of greater than 90% in majority of the studies. There was an improvement in symptoms, and good subjective cure rates in 73%–100% of the patients. Reoperation rates were low in most studies ranging from around 0%–28%. Complications rates were generally low. Laparoscopic hysteropexy is a feasible alternative for women needing surgical correction of uterovaginal prolapse and who desire conservation of the uterus.

Contents

Abbreviations: POP, pelvic organ prolapse; PFDI-20, pelvic floor distress inventory; PFIQ-7, pelvic floor impact questionnaire; PISQ-12, pelvic organ prolapse/urinary incontinence sexual questionnaire; PGI-I, patient global impression of improvement; EPIQ-Q, 35 epidemiology of prolapse and incontinence questionnaire-question: 35; VAS, visual analogue scale; ICIQ-VS, international consultation on incontinence questionnaire for vaginal symptoms; LULUS, laparoscopic uterosacral ligament uterine suspension; UTI, urinary tract infection.

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Introduction

Pelvic organ prolapse (POP) is a definition of anatomical change. Some such changes may well be considered within the range of normality for certain women. A diagnosis of POP ideally demands clear clinical evidence, starting with a woman having symptoms related to the "downward displacement" of a pelvic organ [1]. POP has significant negative impact on the quality of life, including physical discomfort, sexual and psychological problems and embarrassment. The estimated prevalence of any degree of genital prolapse in women between 20 and 59 years is about 30% [2]. The lifetime risk of undergoing surgery for pelvic organ prolapse is estimated to be about 11% and around 30% will undergo repeat surgery for a recurrence of the prolapse [3].

The goals of surgery for POP include restoration of normal anatomy, to maintain or restore urinary, bowel and sexual functions and to improve quality of life. The traditional treatment for uterine prolapse has been the vaginal hysterectomy, even in the absence of uterine disease. Vaginal hysterectomy has been the treatment option for uterovaginal prolapse in 82% of patients in 5 years period (2005–2010) in the UK and has not changed from the previous survey (2000–2005) [4].

Hysterectomy alone does not address the deficiencies in pelvic support and does not correct the underlying pathophysiology, hence the higher incidence of recurrence and vault prolapse [5,6]. Hysterectomy also leads to unnecessary removal of a healthy organ with associated increased morbidity, blood loss and operating time [7,8]. Uterine conservation is important for women who wish to preserve fertility and is seemingly associated with improvements in sexuality, confidence and self-esteem of women [9]. Women may also request preservation of the uterus due to personal beliefs or to retain a sense of identity [10], hence recently there has been much interest in preserving the uterus during prolapse surgery [11] and an increasing number of women are requesting uterine conservation [12].

The advantages of the laparoscopic approach include reduced blood loss, decreased postoperative pain, lower rate of wound complications, decreased hospital stay and fewer adhesion formation, which is particularly beneficial to women wishing to preserve fertility [13,14]. Ureteric injury is also minimal compared to the vaginal approach, due to direct visualisation of the ureters [15]. The laparoscopic approach also minimises the possibility of contamination, if mesh is used and also induces less postoperative vaginal fibrosis [16]. Disadvantages of laparoscopic surgery include a steep learning curve and longer operating times.

The aim of this systematic review was to review the evidence base in order to aid clinicians in counseling and patients in informed decision making when opting for laparoscopic uterine-preserving surgery for pelvic organ prolapse. The objectives of this systematic review were to explore anatomic and functional outcomes in women undergoing laparoscopic hysteropexy and review complication, recurrence and reoperation rates in these patients.

The research question was defined using the PICO model and was "What are the clinical outcomes in women undergoing laparoscopic hysteropexy?"

Material and methods

Sources

An electronic search strategy was developed for medical literature databases, The Cochrane Library, PubMed and Embase (2000–2015), and all searches were updated in February 2016. Congress proceedings were also searched till 02/2016. The keywords and combinations that were used were "laparoscopy"; "hysteropexy"; "cervicopexy"; "uterine suspension"; "uterosacral plication". In addition; references lists were searched and articles identified were checked for eligibility. We used truncation and the Boolean operators 'AND'; 'OR' and 'NOT'. We restricted the search to studies from the year 2000 onwards; to English language; human subjects and female patients; but no other filters were applied. We also excluded studies involving not currently used surgical procedures. The studies that were finally selected for inclusion were evaluated on the basis of their methodological quality and time of follow-up. We did not specify any limit of the duration of follow up.

A Medline search (EBSCO HOST) was conducted on 28/04/15 and again updated on 20/02/16 using the terms Robotic OR Laparo* AND Hysteropexy OR Cervicopexy. The search was restricted to the period from January 2000 to February 2016. Truncation and Boolean operators were used and 38 results were obtained. A similar search strategy was adopted for all the other databases to maintain uniformity.

In our study design we followed the PRISMA guidelines for systematic reviews and we ensured compliance by completing the PRISMA checklist [17]. The initial protocol for this review was submitted to Anglia Ruskin university as part of a student project and can be made available on request.

In order to diminish the subjectivity of the assessment of studies as much as possible, two authors (RN and KN) classified the quality of evidence independently. Any discrepancies were discussed and resolved; if no agreement could be reached, the lead author (RN) made the final decision.

The objective of this review was to explore anatomic and functional outcomes in women undergoing laparoscopic hysteropexy and to review complication and reoperation rates in these patients. We undertook a systematic review of the literature and assessment of methodological quality of the qualifying studies. The significant heterogeneity of the selected studies, and the variation