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Review article

Laparoscopic management of ureteral endometriosis: A systematic review

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ABSTRACT

The optimal management of ureteral endometriosis (UE) is not yet well defined. The choice on surgical approach and type of procedure has been based both on surgeons' experience and the location and depth of the lesion. The aim of this study was to review evidence about laparoscopic management of ureteral endometriosis, including preoperative evaluation, surgical details and postoperative follow-up. PubMed Central and SCOPUS databases were searched to identify studies reporting cases of laparoscopically managed ureteral endometriosis and including data regarding preoperative findings, surgical interventions and postoperative follow-up. Two sets of MeSH terms were used: 1) "laparoscopy", "endometriosis" and "ureter"; 2) "laparoscopy", "endometriosis" and "urinary tract". Databases were searched for articles published since 1996, in English, French, Spanish and Portuguese, without restrictions regarding study design. Studies reporting surgical approaches other than conventional laparoscopy were excluded, as were case reports and case studies including fewer than 5 cases. From 327 studies obtained through database searching, 18 articles were finally included in this review, including a total of 700 patients with ureteral endometriosis. 57% of patients had at least one previous surgery for endometriosis. Preoperative evidence of significant hydroureter/hydronephrosis was found in 324 of 671 (48.3%) patients. Dysmenorrhea (81.4%), pelvic pain (70.2%) and dyspareunia (66.4%) were the presenting symptoms more commonly reported by the patients. Most patients presented no symptoms specific to the urinary tract. Ureteral endometriosis was more frequent in the left ureter (53.6%) and it was bilateral in 10.6% of cases. Ureterolysis alone was considered a sufficient procedure in 579 of 668 patients (86.7%), and in the remaining 89 patients ureteral resection was necessary. Rectovaginal and uterosacral involvement was present in 58.8% and 47.9% of patients, respectively. Concomitant ureteral and bladder endometriosis was described in 19.8% of patients. Only 6 studies reported cases of accidental ureteral injuries, in 1–24% of patients. Cases of conversion to laparotomy are reported in only 6 studies, in 3–6,7% of patients. Major postoperative complications occurred in 21 out of 682 patients (3.2%). The need for reoperation during follow-up period because of ureteral endometriosis persistence or recurrence was 3.9%. When performed in specialized centers, laparoscopic ureterolysis showed to be a feasible and safe procedure, with a low risk of complications and with satisfactory long-term results. This conservative approach may be used as the initial treatment option in most patients with ureteral endometriosis.

Contents

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Introduction

Endometriosis is defined as the presence of endometrial glands and stroma outside the uterus [1]. It is a common, benign and estrogen-dependent disorder, affecting about 10–20% of women of reproductive age [2]. Endometriosis is usually classified as superficial or peritoneal, ovarian or deep infiltrative endometriosis according to the location of lesions. Deep infiltrative endometriosis (DIE) is defined by the presence of subperitoneal invasion by the endometriotic tissue by at least 5 mm in depth [3]. Its clinical behavior may range from an asymptomatic finding to a serious condition affecting multiple extragenital organs and causing significant symptoms namely chronic pelvic pain, which may have a negative impact on the quality of life of these women.

Urinary tract is one of the most common extragenital systems affected. The occurrence of urinary tract endometriosis (UTE) has been increasingly reported in the last years, ranging from 0.3 to 12% of all women affected by endometriosis [4,5]. Bladder is the most common location, accounting for about 80% of cases, and ureteral involvement occurs in only 14% [4]. Among women with DIE the scenario may be different. In a recently published study of 283 patients with DIE more than 52% had evidence of UTE, 94.6% of which with ureteral involvement, and only 14.3% had bladder endometriosis [6].

Endometriosis can infiltrate the peritoneum, uterosacral ligaments, ureteral adventitia and surrounding connective tissue, causing an extrinsic compression of the ureteral wall due to the inflammatory reaction and fibrosis. Intrinsic ureteric endometriosis, involving invasion of the muscularis of the ureteral wall, is less common [7].

The optimal management of ureteral endometriosis (UE) is not yet well defined. Surgery is often necessary to relief urinary

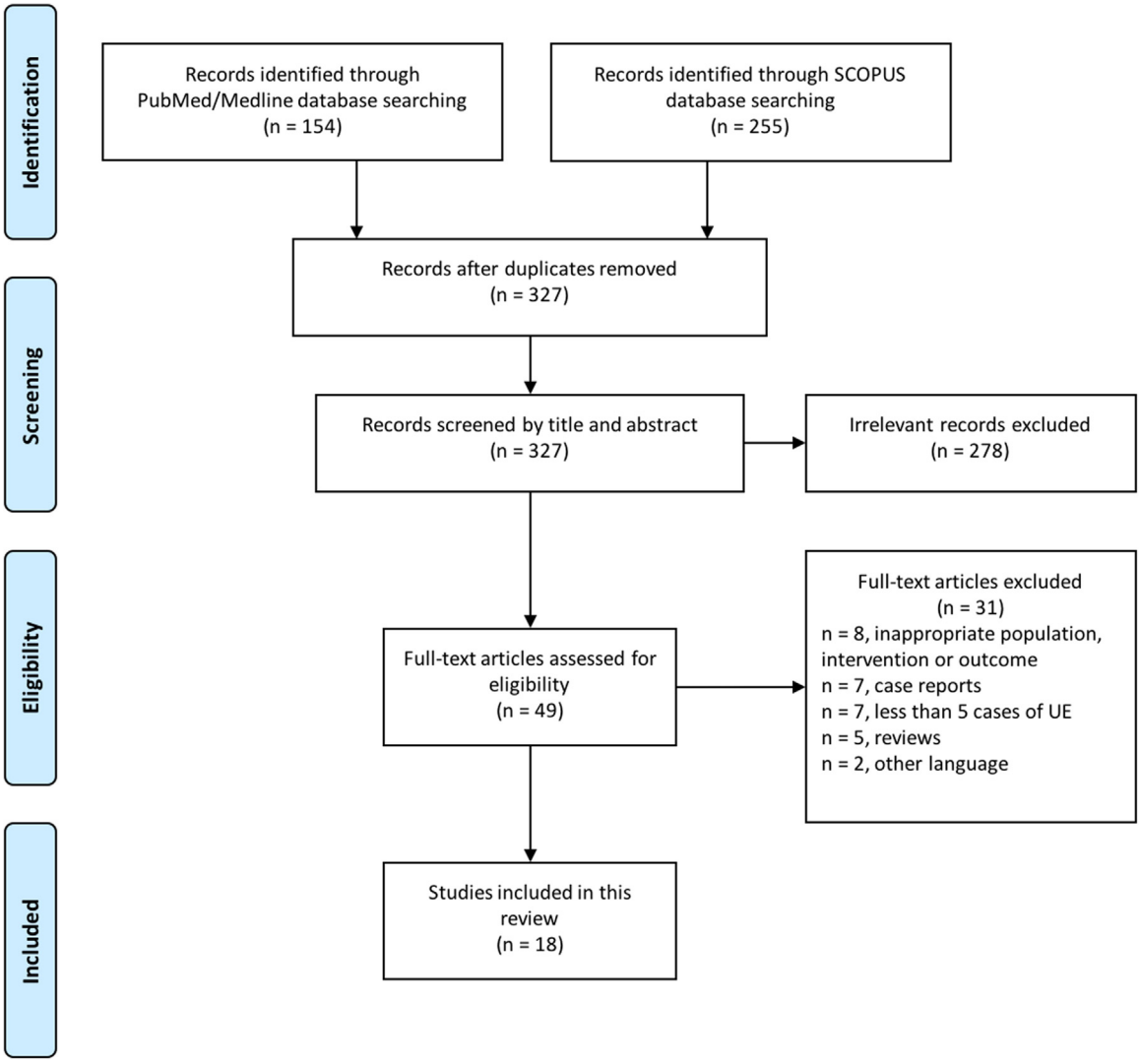

Fig. 1. Methodology for literature review.