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Original Article

The Efficacy of Laparoscopic Surgical Treatment of Ovarian Remnant and Ovarian Retention Syndromes

Anjali Martinez, MD*, and Fred M. Howard, MD

From Department of Obstetrics and Gynecology, The George Washington University, Washington, DC (Dr. Martinez), and Department of Obstetrics and Gynecology, University of Rochester School of Medicine and Dentistry, Rochester, New York (Dr. Howard).

ABSTRACT **Study Objective:** To evaluate the degree of pain relief provided by laparoscopic surgical treatment of ovarian remnant and ovarian retention syndromes.

Design: Retrospective analysis (Canadian Task Force classification II-2).

Setting: Academic hospital and affiliated outpatient offices.

Patients: A total of 54 patients from 2004 to 2008 who underwent surgical treatment for suspected ovarian remnant syndrome or ovarian retention syndrome.

Interventions: Oophorectomy.

Measurements and Main Results: Preoperative and postoperative pain scores were recorded from patients who underwent surgical treatment for either ovarian remnant or ovarian retention syndrome. Data regarding comorbid diagnoses that would contribute to chronic abdominopelvic pain, previous surgical history, surgical complications, and pathology to confirm the preoperative diagnosis were also collected. Pathology confirmed that ovarian tissue was removed in 52 of the 54 patients. Forty percent and 41% of patients with ovarian remnant and ovarian retention, respectively, achieved a 50% reduction of their average pain levels; 50% and 56%, respectively, achieved a 30% reduction in average pain levels. There was not a statistically significant difference in postoperative pain relief between the 2 groups. Cases with ovarian remnant syndrome had more prior surgical procedures (4.8 vs 3.6, $p = .049$) and were more likely to have a surgical complication (25% vs 3%, $p = .03$) than cases with ovarian retention syndrome. Patients with a 30% or greater decrease in their pain levels postoperatively were likely to have fewer other diagnoses associated with chronic pain (1.4 ± 1.1 vs 2.1 ± 0.9, $p = .009$).

Conclusion: Surgical treatment for ovarian remnant or ovarian retention syndrome is effective but is most effective in patients with no other pain-related diagnoses. Thus, it is important to thoroughly evaluate women with ovarian remnant or ovarian retention syndrome for other pelvic pain–related disorders. In almost all cases, surgery can be done laparoscopically in patients with these syndromes. Journal of Minimally Invasive Gynecology (2015) 22, 245–249 © 2015 AAGL. All rights reserved.

Keywords: Ovarian remnant; Ovarian retention; Residual ovary

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Ovarian remnant syndrome and ovarian retention syndrome are 2 distinct disorders that may be causes of chronic abdominopelvic pain (CPP). Ovarian remnant syndrome is the presence of CPP and persistent ovarian tissue even though the ovary had been previously surgically removed. It occurs most often after a difficult hysterectomy and bilateral salpingo-oophorectomy but can occur after only a unilateral salpingo-oophorectomy. Ovarian retention syndrome, also called residual ovary syndrome, is the presence of chronic abdominopelvic pain associated with the deliberate retention of 1 or both ovaries at the time of hysterectomy.

Most often the treatment of both syndromes is oophorectomy. Previously published studies regarding surgical treatment of both syndromes focus on the surgical technique

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Corresponding author: Anjali Martinez, MD, Obstetrics and Gynecology, The George Washington University, 2150 Pennsylvania Ave NW, Washington, DC 20037.

E-mail: agmartinez@mfa.gwu.edu

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itself including the route of surgery (laparotomy vs laparoscopy), details of the surgical technique for safe and complete oophorectomy, and complications [1–4]. Although some published series mention that patients have improvement of pain symptoms after surgery, details of patient outcomes in terms of CPP have not been well described [5,6]. One retrospective study regarding ovarian retention syndrome reported that about half the patients had prolonged pain relief after surgical treatment [7]. Our anecdotal impression has been that pain relief after surgical treatment of ovarian remnant and ovarian retention syndromes was not as high as suggested by previously published studies. For that reason, we performed this study to investigate the degree of pain relief after surgical treatment of ovarian remnant syndrome and ovarian retention syndrome and whether the presence of comorbid chronic pain diagnoses affect the surgical outcomes.

Materials and Methods

This protocol was approved by the Research Subjects Review Board of the University of Rochester School of Medicine and Dentistry (RSRB00026316). A review of all cases of surgical management for ovarian retention syndrome and ovarian remnant syndrome in women with chronic pelvic pain by a single surgeon (FMH) over 5 years from 2004 to 2008 was conducted. Data were collected from the electronic health records at the institution. Information collected included the following:

1. Preoperative diagnosis/indication for surgery: suspected ovarian remnant syndrome or ovarian retention syndrome was the preoperative diagnosis in all cases. Ovarian remnant syndrome was suspected when there was CPP ipsilateral to the location of a previous oophorectomy. Most of the time there was a history of a previous hysterectomy and bilateral salpingo-oophorectomy. Imaging suggestive of an ovarian remnant and hormonal levels that were inconsistent with menopause were preoperative findings that suggested the diagnosis. Diagnosis was not confirmed unless there was histologic confirmation of ovarian tissue in the surgical specimen. Ovarian retention syndrome was suspected when there was CPP after hysterectomy with ovarian conservation, and the pain clinically was reproduced by palpation of the ovary. Hormonal suppression to decrease pain was used diagnostically in some, but not all, cases of suspected ovarian retention syndrome.
2. Comorbid diagnoses: the presence of additional diagnoses that could contribute to CPP was recorded. For purposes of this study, we counted both diagnoses that we made and those previously made by other physicians. These included the following:
   a. Depression: prior diagnosis of depression by a mental health professional or primary care provider or a Beck Depression Inventory score of greater than 15
   b. Endometriosis: the presence of histologically confirmed endometrial glands and/or stroma outside of the endometrium and myometrium
   c. Irritable bowel syndrome: at least 12 weeks of abdominal pain or discomfort in the past 12 months with 2 of the 3 following symptoms: relief with defecation, change in the frequency of stool, or change in the form of stool (Rome II criteria)
   d. Interstitial cystitis/painful bladder syndrome: pelvic pain, pressure, or discomfort related to the bladder associated with a persistent urge to void or urinary frequency in the absence of infection or other urinary tract pathology; in uncertain cases, testing with potassium sensitivity test or cystoscopic hydrodistention was used to confirm the diagnosis
   e. Fibromyalgia: previous diagnosis of fibromyalgia or tenderness over at least 11 of the designated fibromyalgia points
   f. Ilioinguinal neuralgia: allodynia in the distribution of the ilioinguinal nerve
   g. Myofascial pain syndrome of the abdomen: pain in the abdominal wall characterized by the finding of 1 or more hyperirritable and painful spots (trigger points) that result in abdominopelvic pain when compressed and respond to trigger point injections with significantly decreased pain
   h. Pelvic floor tension myalgia: moderate or severe tenderness of the levator ani muscles at the time of pelvic examination
   i. Pelvic adhesive disease: presence of pelvic adhesions at the time of surgery or noted in previous surgeries. We collected these data, but because of the frequency of occurrence of adhesive disease and the controversial relationship of adhesions to CPP, we did not include this diagnosis in analyses of comorbid diseases
   j. Pelvic congestion syndrome: pelvic pain and a pelvic venogram showing varicosities, abnormal plexus formation, and delayed venous emptying
   k. Pudendal neuralgia: unilateral or bilateral vulvar pain with hyperalgesia or allodynia of the vulva at the time of examination and with decreased pain after pudendal nerve blocks for greater than the duration of the local anesthetic
   l. Sacroiliac pain: back pain with tenderness over 1 or both sacroiliac joints
   m. Vulvar vestibulitis: vulvar pain, especially with coitus or tampon insertion, and abnormal vestibular tenderness to cotton-tip applicator palpation
3. Previous surgical history: the total number of previous abdominal surgeries were recorded and stratified into number of laparotomies, laparoscopies, or unknown technique. Vaginal hysterectomies were included in this third category. In addition, it was noted whether the patient had previous surgery for the diagnosis of ovarian remnant or ovarian retention syndrome
4. Preoperative pain scores: minimum, average, and maximum subjective pain scores based on a numeric rating scale from 0 to 10 before surgical treatment were recorded
5. Description of the procedure and pathology, including intraoperative findings, procedures, and if ovarian tissue was confirmed by pathology
6. Postoperative course including any complications
7. Postoperative pain scores: pain scores based on a numeric rating scale were noted from the initial postoperative visit (2–8 weeks after surgery) and all subsequent office visits (8 weeks to years after surgery)

Data were entered into and analyzed using SPSS software (version 15.0; SPSS Inc, Chicago, IL). All of the dichotomous variables were analyzed using the chi-square test.

Results

During the 5 years of the study, there were 54 patients who underwent 57 procedures for suspected ovarian remnant