



# *Case presentation* *E ndometriosis* *webinar*

AVICENNA ENDOMETRIOSIS CENTER

TEHRAN. IRAN

# Case one

- ▶ 31 Years old woman
- ▶ Not trying to conceive
- ▶ Severe pelvic pain
- ▶ Dysmenorhea score 10, Dysparounea score 10  
not able to do coitus for 3monthes because of pain.
- ▶ She had *repeated visits by obstetrician and gynecologist without complete workup.*

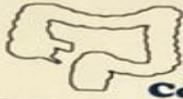


مرکز فوق تخصصی درمان ناباروری و سقط مکرر این سینا

**Radiology & Sonography**

شماره بیمار : 35244	شماره : 274979	سن : 36 سال	نام و نام خانوادگی : نفیسه پریش
تاریخ : 1399/10/29			تاریخ پذیرش : 1399/10/29
<p><b>Urinary system sonography:</b></p> <p>Both kidneys show normal size , configuration , paranchymal thickness and corticomedullary differentiation .                  Right kidney: 115mm ( Paranchymal thickness : 11mm)                  Left kidney: 114mm ( Paranchymal thickness : 13mm)                  No hydronephrosis , stone or mass lesion is seen.                  The ureters are not dilated .                  Urinary bladder shows normal capacity and wall thickness without stone or mass.                  Both UVJs are patent .</p> <p><b>Pelvic ultrasound examination for evaluation of DIE and color doppler TVS:</b></p> <p>Method: Trans vaginal ultrasound examination.                  Bladder nodule: negative but adhesions are seen at uterovesical pouch.                  Uterus: position: anteverted, size: normal ( 84 x 47 x 52mm)                  Adenomyosis: mildly present in posterior wall.</p> <p>Fibroid: 5 x 4mm right anterior intramural myoma.                  Endometrial thickness is 15mm                  Polyp: not present</p> <p>Frozen pelvis is seen with severe adhesions between uterus , ovaries &amp; rectosigmoid colon.</p> <p>Right ovary: 48 x 39mm                  Ovarian adhesion to the uterus (right): present                  Endometrioma: 38 x 28mm endometrioma.</p> <p>Left tubo-ovarian complex : 42 x 30mm                  Ovarian adhesion to the uterus (left): present                  Endometrioma: 6mm &amp; 8mm endometriomas &amp; 15 x 15mm endometriosis nodule in left tubo-ovarian complex.</p> <p>There is no abnormal flow in color doppler of ovaries.</p> <p>Gross nodule:                  - 85 x 17mm long segment deep penetrating anterior rectosigmoid wall nodule with muscularis layer involvement &amp; extension to rectal mucosa.                  This large endometriosis patch is located within 5-6cm from anal verge.                  - Bilateral USL thickening.</p> <p>Pouch of douglas: obliterated</p>			
صفحه 1 از 2	3:55 PM	1400/02/16	جان گیرنده :



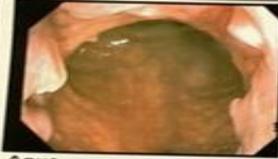


## Colonoscopy Report

Endoscopist : Dr S.A.M.Reza Dust

تاریخ : ۱۴۰۰/۰۱/۳۰  
سن : ۳۶

نام بیمار : نغمه پریش  
جنسیت : زن



Anus



Rectum



Rectum



Sigmoid



Sigmoid



Sigmoid



Sigmoid



Sigmoid



Sigmoid

### Reason for endoscopy

Hematochezia, suspicious to endometriosis

#### Anus

Internal hemorrhoids may bulge into the anal canal but do not protrude through the anus without bleeding in anus

#### Rectum

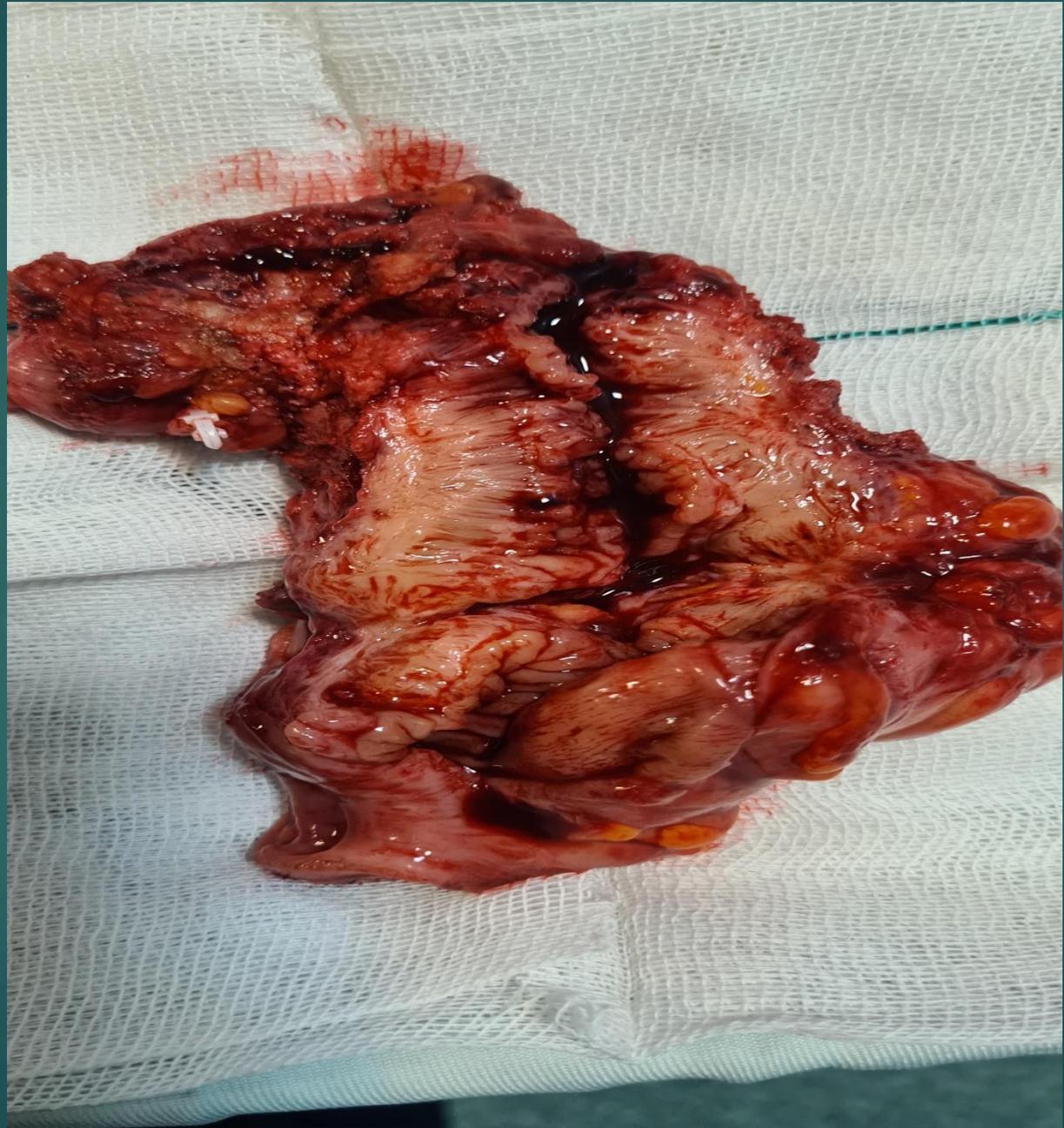
There was seen semicircumferential fungoid mass in 8 cm to 13cm, so scope could not be passed, Bx was taken for pathology.

### Final Diagnosis

Suspicious to rectosigmoid endometriosis  
less likely adenocarcinoma should be considered

### Recommendation

Follow up pathology.





# Endometriosis-associated infertility: surgery and IVF, a comprehensive therapeutic approach

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Dr Pedro N Barri was born in Barcelona in 1949. He graduated from the Faculty of Medicine in Barcelona in 1971 and completed his doctorate in 1993 with a thesis entitled "Respuesta Anómala a la Estimulación de la Maduración Folicular en Fecundación In Vitro" with qualification Cum Laude. He is Director of the Department of Obstetrics, Gynaecology and Reproductive Medicine at USP Institut Universitari Dexeus, Honorary President of the Spanish Fertility Society, Honorary member of the Argentina Society of Sterility and Fertility, emeritus member of the Executive Committee of the ISGE since 1998, member of the French Society of Sterility and member of the ASRM.

**Abstract** Infertility is a common problem presented by patients with endometriosis. At present, whichever treatment is chosen, half of patients with advanced stages of the disease will remain infertile afterwards. This observational study looked at the reproductive outcome achieved after treating a group of 825 patients aged between 20 and 40 years with endometriosis-associated infertility during the period 2001–2008. Of the 483 patients who had surgery as the primary option, 262 became pregnant (54.2%). Among the patients who did not become pregnant, 144 underwent 184 IVF cycles and 56 additional pregnancies were obtained (30.4% clinical pregnancy rate per retrieval). It is notable that, before any treatment, patients with endometriosis had a poorer ovarian reserve than the control group. The combined strategy of endoscopic surgery and subsequent IVF led to a total of 318 pregnancies, which represents a combined clinical pregnancy rate of 65.8%. This percentage is significantly higher than that obtained with surgery alone ( $P < 0.0001$ ), with 173 patients who were not operated on and who went to IVF as the primary option ( $P < 0.0001$ ) and with 169 patients who had no treatment and achieved 20 spontaneous pregnancies ( $P < 0.0001$ ). 

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**KEYWORDS:** endometriosis, endoscopic surgery, infertility, in-vitro fertilization, ovarian reserve

# Surgery for endometriosis-associated infertility: a pragmatic approach

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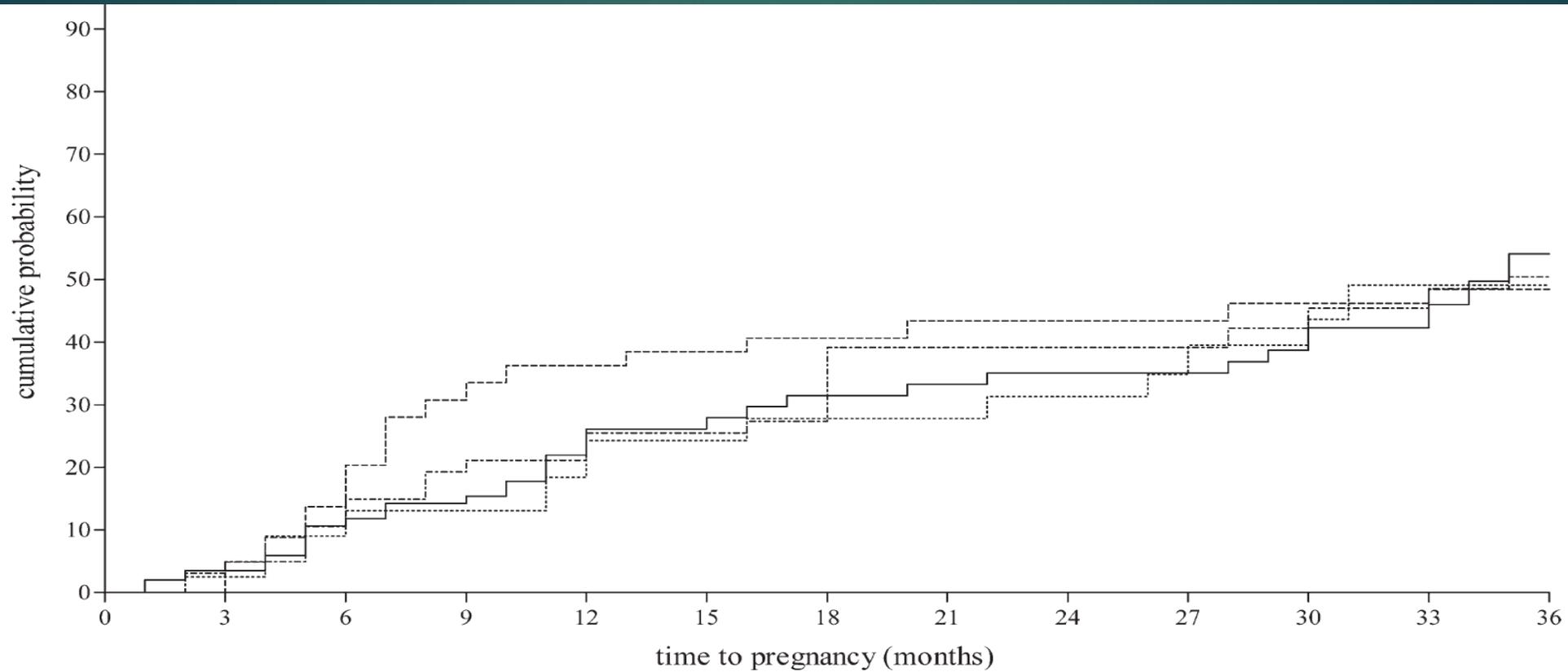
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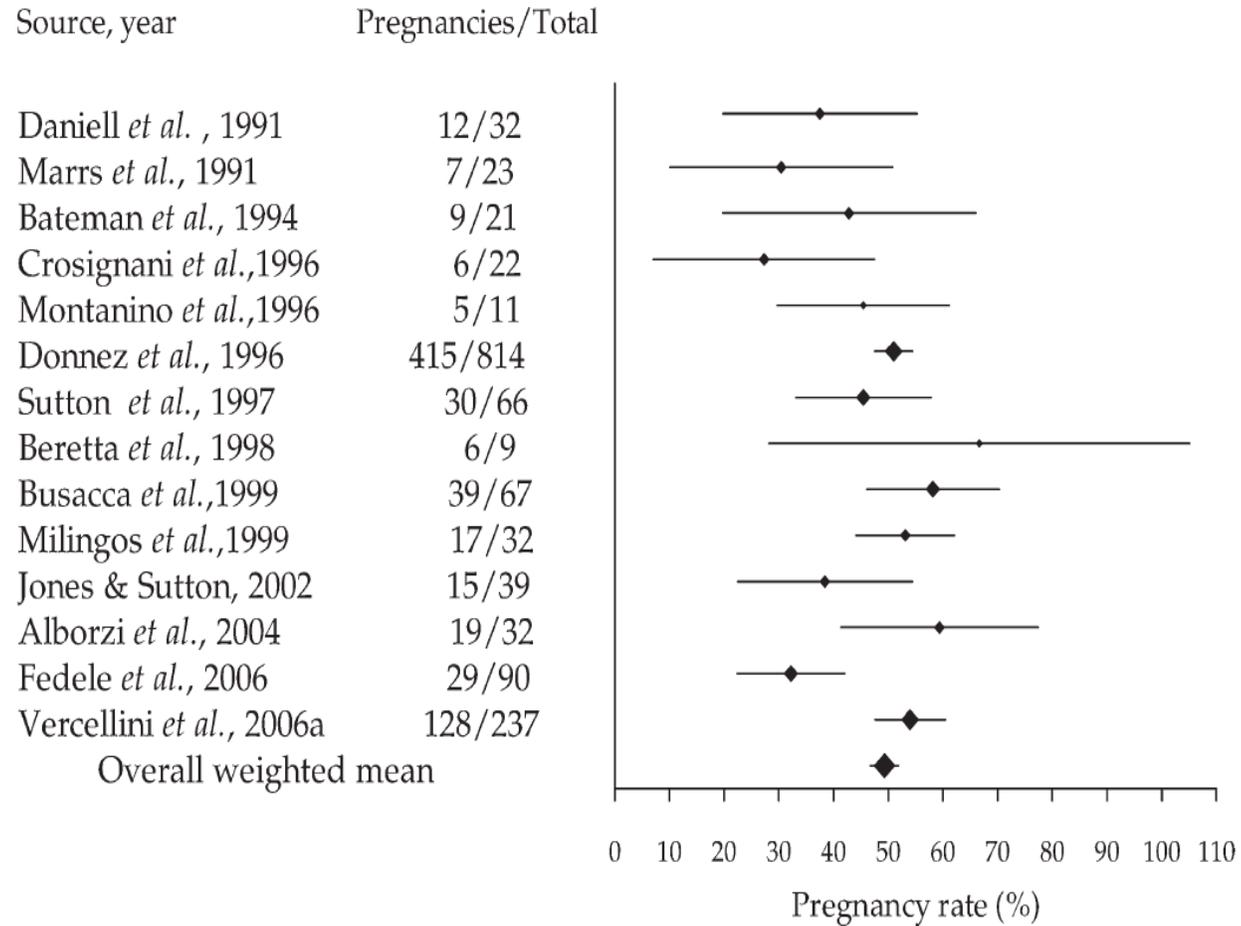
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- Introduction
- Surgery for diagnosis and staging
- Surgery for peritoneal disease (ASRM stage I–II)
- Surgery for ovarian disease (ASRM stage III–IV)
- Surgery for rectovaginal lesions
- Surgery for recurrent endometriosis
- Adjuvant medical treatment



**Figure 1** Cumulative 36-month probability of becoming pregnant by disease stage in 222 infertile women who underwent conservative surgery for endometriosis and had no other infertility factor (continuous line, stage I; dotted line, stage II; dashed line, stage III; dash-dotted line, stage IV). From Vercellini *et al.* (2006a), with permission.

selection bias (inclusion of women who did not try to conceive :



**Figure 3** Pregnancy rates observed after laparoscopic excision of endometriomas. Diamonds represent percentage point estimates and horizontal lines represent 95% CIs. Modified from Jones and Sutton (2002), with permission.

**Table 1 Major intra- and post-operative complications of radical surgery for rectovaginal endometriosis**

Complication	Observed incidence (%)
Neurogenic bladder dysfunction	4–10
Rectovaginal fistula formation	2–10
Blood transfusion	2–6
Inadvertent rectal perforation	1–3
Anastomotic leakage	1–2
Pelvic abscess	1–2
Temporary diverting loop ileostomy/ colostomy	0.5–1.5
Intraoperative ureteral lesion	0.5–1
Post-operative ureteral fistula formation	0.5–1
Post-anastomotic rectal stenosis	0.5–1
Post-anastomotic ureteral stenosis	0.5–1

From Vercellini *et al.* (2009, in press). Literature data, 2000–2008: Possover *et al.* (2000), Anaf *et al.* (2001), Chapron *et al.* (2001), Redwine and Wright (2001), Wright and Shafic (2001), Duepree *et al.* (2002), Fedele *et al.* (2004a), Ford *et al.* (2004), Thomassin *et al.* (2004), Volpi *et al.* (2004), Campagnacci *et al.* (2005), Chopin *et al.* (2005), Darai *et al.* (2005), Fleisch *et al.* (2005), Keckstein and Weisinger (2005), Mohr *et al.* (2005), Vignali *et al.* (2005), Angioni *et al.* (2006), Dubernard *et al.* (2006), Landi *et al.* (2006), Langebrette *et al.* (2006), Lyons *et al.* (2006), Ribeiro *et al.* (2006), Vercellini *et al.* (2006b), Brouwer and Woods (2007), Kristensen and Kier (2007).

of conservative surgery for rectovaginal endometriosis in which the reproductive outcome in operated patients was compared with that observed in women undergoing expectant management (Vercellini *et al.*, 2006b). Among the 44 women who had resection of rectovaginal endometriosis at laparotomy, 15 (34.1%) became pregnant, as compared with 22 of the 61 (36.1%) women who choose expectant management. The 12-month cumulative probability of conception was 20.5% in the former group and 34.7% in the latter ( $P = 0.12$ ). Corresponding figures at 24-month survival analysis were, respectively, 44.9 and 46.8% ( $P = 0.38$ ). However, a statistically significant longer time to recurrence of moderate or severe pain recurrence was observed in the surgery group compared with the expectant management group for all of the symptoms considered. The benefit of surgery was particularly evident with regard to deep dyspareunia and dyschezia.

The above data suggest that excision of rectovaginal plaques does not improve the likelihood of pregnancy nor reduces the time-to-conception in women with endometriosis-associated infertility. These findings may be explained by a process of 'pseudoretroperitonealization' of implants leading to a reduction of the biochemical impact of deep lesions on fertilization processes. In fact, adhesion between the anterior rectal wall and the posterior vaginal fornix or uterine isthmus results in exclusion of the deepest portion of the pouch of Douglas, where infiltrating endometriosis originates and develops (Vercellini *et al.*, 1996, 2000; Vercellini, 1997). Excision of deep endometriotic implants is unlikely to influence the probability

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Source, year	Pregnancies/total
Possover <i>et al.</i> , 2000	8/15
Redwine <i>et al.</i> , 2001	12/28
Fedele <i>et al.</i> , 2004	17/50
Thomassin <i>et al.</i> , 2004	4/15
Chopin <i>et al.</i> , 2005	42/78
Darai <i>et al.</i> , 2005	10/22
Fleisch <i>et al.</i> , 2005	4/17
Keckstein <i>et al.</i> , 2005	47/95
Mohr <i>et al.</i> , 2005	23/58
Vercellini <i>et al.</i> , 2006	15/44
Overall weighted mean	

**Figure 5** Pregnancy rates observed after excisional surgery of rectovaginal endometriosis at laparotomy or laparoscopy. Diamonds represent percentage point estimates and horizontal lines 95% CIs. Modified from Vercellini *et al.* (2006b), with permission.

**Table II** International guidelines on surgical treatment of endometriosis-associated infertility in asymptomatic women

Clinical condition	Recommendation		
	ESHRE 2005	ASRM 2006	RCOG 2006
Minimal-mild endometriosis (stage I–II disease)	Limited benefit: surgery recommended	Small benefit: surgery recommended	Demonstrated benefit: surgery recommended
Moderate–severe endometriosis (stage III–IV disease)	Possible but unproven benefit: surgery recommended	Possible benefit: surgery recommended	Possible benefit: recommendation uncertain
Post-operative adjuvant treatment	No benefit: not recommended	No benefit: not recommended	No benefit: not recommended
Surgery before IVF	Recommended if endometrioma $\geq 4$ cm	Doubtful benefit: no recommendation	Recommended if endometrioma $\geq 4$ cm
Recurrent endometriosis	No recommendation	Second-line surgery not recommended	No recommendation

of the results of the Canadian and Italian multicenter trials (Marcoux <sup>10</sup> in the hands of surgeons not specifically trained in such

# BMJ Open Laparoscopic excision of deep rectovaginal endometriosis in BSGE endometriosis centres: a multicentre prospective cohort study

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► Prepublication history and additional material for this paper are available online. To view these files, please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2017-018924>).

## ABSTRACT

**Objective** To estimate the effectiveness and safety of laparoscopic surgical excision of rectovaginal endometriosis.

**Design** A multicentre, prospective cohort study.

**Setting** 51 hospitals accredited as specialist endometriosis centres.

**Participants** 5162 women of reproductive age with rectovaginal endometriosis of which 4721 women had planned laparoscopic excision.

**Interventions** Laparoscopic surgical excision of rectovaginal endometriosis requiring dissection of the pararectal space.

## Strengths and limitations of this study

- Our study is by far the largest, multicentre observational cohort published for the laparoscopic surgical treatment of rectovaginal endometriosis with a sample of nearly 5000 cases.
- Data were prospectively collected, minimising missing data and recall bias, and were obtained from multiple centres enhancing transferability, and outcomes measurements were patient reported reducing interpreter bias.
- Efficacy outcomes were assessed in both the short term (at 6 months) and longer term (at 2 years) fol-



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**Results** At 6 months postsurgery, there were significant reductions in premenstrual, menstrual and non-cyclical pelvic pain, deep dyspareunia, dyschezia, low back pain and bladder pain. In addition, there were significant reductions in voiding difficulty, bowel frequency, urgency, incomplete emptying, constipation and passing blood. These reductions were maintained at 2 years, with the exception of voiding difficulty. Global quality of life significantly improved from a median pretreatment score of 55/100 to 80/100 at 6 months. There was a significant improvement in quality of life in all measured domains and in quality-adjusted life years. These improvements were sustained at 2 years. All analgesia use was reduced and, in particular, opiate use fell from 28.1% prior to surgery to 16.1% at 6 months. The overall incidence of complications was 6.8% (321/4721). Gastrointestinal complications (enterotomy, anastomotic leak or fistula) occurred in 52 (1.1%) operations and of the urinary tract (ureteric/bladder injury or leak) in 49 (1.0%) procedures.

**Conclusion** Laparoscopic surgical excision of rectovaginal endometriosis appears to be effective in treating pelvic pain and bowel symptoms and improving health-related quality of life and has a low rate of major complications when performed in specialist centres.

- ▶ The main limitation of our study re data from incomplete data entry, low-up or uncompleted follow-up a study. We performed sensitivity ana the robustness of our results to inco results were stable, remaining sig cases even when symptomatic out women with missing data were as worst possible outcome.
- ▶ Historical control data were used patients prior to surgical interve the study would have benefited fro cally treated control group. Howev group of women with severe, refra to continue with non-surgical trea challenging.

## INTRODUCTION

Endometriosis is a common problem for women in their years and can cause chronic subfertility and bowel and uri tion.<sup>1</sup> The associated morbid substantial economic burden c

# Endometriosis-related infertility: does surgery improve IVF outcomes? A single-center observational retrospective analysis

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## ABSTRACT

**Background:** Endometriosis-related infertility presents a dilemma when choosing the appropriate therapy: surgery or IVF? The risks of surgery and its potential damage to ovarian reserve have to be weighed up against the complications associated with the persistence of the endometriosis during ART therapy.

**Objective:** The aim of this study was to determine the impact of surgery on ART outcomes and clinical pregnancy rates (cPRs) in different endometriosis phenotypes and after IVF failure.

**Design:** This was a retrospective observational cohort study of 78 endometriosis patients undergoing 131 IVF/ICSI cycles from January 2011 to December 2018 at the IVF Centre of Pisa. Patients were classified on the basis of endometriosis phenotype, and also according to whether they had previously undergone ART or surgery followed by ART. Patients with no previous surgery were classified as affected by: ovarian endometrioma (OMA) and deep infiltrating endometriosis with or without associated endometrioma (DIE ± OMA). Operated patients were classified as: OMA surgery or DIE ± OMA surgery.

**Results:** cPRs in the OMA group (first-line IVF) and in the OMA surgery group were 37% and 39% respectively. cPRs in the DIE ± OMA group (first-line IVF) and in the DIE ± OMA surgery group were 21% and 57% respectively. All patients who underwent surgery after first-line IVF failure achieved pregnancy ( $p=0.003$ ).

**Conclusions:** First-line surgery in infertile patients with OMA does not improve chances of pregnancy. First-line surgery seems to be a good option for infertile patients with DIE. After IVF failure, surgery should be considered.

# The success of various endometrioma treatments in infertility: A systematic review and meta-analysis of prospective studies

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## Abstract

**Background:** Endometriosis is seen in 0.5%-5% of fertile and 25%-40% of infertile women. To investigate this conflict between gynecologists that ovarian endometriomas should be removed or not before making any decision about pregnancy among infertile women, the authors decided to carry out a systematic review and meta-analysis to compare the effect of various available therapeutic methods and notice the impact of these options on women's pregnancy rate.

**Methods:** This review is based on PRISMA recommendations with an electronic search using the following databases: PubMed, Scopus, Google scholar, etc, from 2000 to 2018, in the English language. The studies compare pregnancy rate based on four different treatment types of OMAs between infertile women: (surgery + ART, surgery + spontaneous pregnancy, aspiration ± sclerotherapy + ART, and ART alone).

**Main findings:** At least eight prospective studies were included, in which 553 infertile women were compared in terms of treatment methods of OMAs before trying to become pregnant.

**Conclusion:** Treatments are usually based on the patient's clinical condition and must be individual, with the purpose of relieving pain, improving fertility, or both. The authors do not have not any significant difference between our four groups of study; however, the success of surgical procedure compared to other methods was higher and the success of ART alone was the least.

## KEYWORDS

