Spontaneous fertility after expectant or surgical management of rectovaginal endometriosis in women with or without ovarian endometrioma: a retrospective analysis

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Objective: To investigate spontaneous pregnancy rate (SPRs) of women with rectovaginal endometriosis (RV) with/without ovarian endometrioma (OMA) and treated with the use of expectant or surgical management.
Design: Retrospective study.
Setting: University hospital.
Patient(s): The study included patients with RV with or without OMA who tried to conceive spontaneously for 1 year either without undergoing surgery (group E; n = 284) or after surgery (group S; n = 221). The study population was further divided into four subgroups: women with RV without OMA who directly tried to conceive (group eRV; n = 121) or tried to conceive after surgery (group sRV; n = 96), and women with RV with OMA who directly tried to conceive (group eOMA; n = 163) or tried to conceive after surgery (group sOMA; n = 125).
Interventions(s): Expectant or surgical management.
Main Outcome Measure(s): Crude and cumulative SPRs.
Result(s): At 1 year, crude and cumulative SPRs were lower in group E (17.3% and 23.8%, respectively) than in group S (35.7% and 39.5%). Similarly, crude and cumulative SPRs were lower in group eRV (24.8% and 30.6%) than in group sRV (42.7% and 45.7%, respectively) and in group eOMA (11.7% and 18.0%) than group sOMA (30.4% and 34.5%). At 1 year, crude and cumulative SPRs were higher in group eRV (24.8% and 30.6%) than in group eOMA (11.7% and 18.0%), and in group sRV (42.7% and 45.7%) than in group sOMA (30.4% and 34.5%).
Conclusion(s): Crude and cumulative SPRs are lower in women treated with the use of expectant rather than surgical management. The presence of OMAs decreases SPRs independently from the treatment modality adopted. (Fertil Steril® 2017;107:969–76. ©2017 by American Society for Reproductive Medicine.)
Key Words: Endometrioma, endometriosis, fertility, pregnancy rate, surgery

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Endometriosis is a benign estrogen-dependent condition of reproductive-age women associated with pain symptoms and infertility. It can be categorized into three different forms: superficial endometriosis, deep infiltrating endometriosis (lesions penetrating ≥5 mm under the peritoneal surface), and ovarian endometriosis. Rectovaginal endometriosis (RV) is a severe form of deep infiltrating endometriosis that can partially or completely obliterate the pouch of Douglas. It is well established that RV causes bothersome pain symptoms and deterioration of quality of life and sexual function (1–4). However, the impact of RV on fertility is uncertain, because the burial of endometriosis beneath rectouterine adhesions with exclusion of the deepest part of the pouch of Douglas may not hamper fertilization processes (5). The majority of research has focused on the impact of medical/surgical management on pain relief (6–12), whereas scattered and scant evidence is available on the reproductive performance of patients with RV (5, 13–15). Furthermore, to the best of our knowledge, no previous study has compared the impact of expectant versus surgical management on the reproductive outcome of women with RV without a history of infertility. Therefore, the present retrospective study aimed to investigate the spontaneous pregnancy rates (SPRs) of women with RV treated with the use of expectant or surgical management.

MATERIALS AND METHODS

Study Design

This study was based on a retrospective analysis of a database prospectively collected from January 2009 to December 2015. All of the women signed written informed consents to record their data for scientific purposes, and the Regional Ethics Committee approved the study.

Outcomes of the Study

The primary end point of the study was to compare the crude and the cumulative SPRs at 1-year follow-up in women with RV treated with the use of expectant or surgical management. Crude pregnancy rate was calculated according to intention-to-treat analysis at 12-month follow-up, and cumulative pregnancy rate was calculated with the use of a Kaplan-Meier analysis. The secondary end point was to evaluate the influence of endometriomas (OMAs) on crude and cumulative SPRs in women with RV treated with the use of either expectant or surgical management. The tertiary end point was to assess crude and cumulative SPRs according to the age of the study population (<35 years and ≥35 years). Other end points of the study were to compare time to pregnancy, pregnancy outcomes, and reasons for stopping trying to conceive among the study groups. Pregnancy was defined as visualization of a gestational sac with demonstration of embryonic cardiac activity.

Study Population

The study included patients with RV wishing to conceive spontaneously who underwent either expectant or surgical management with 1 year of follow-up since the first attempt to become pregnant. Patients with RV were informed about the available evidence, expected benefits, risks, and contraindications of expectant and surgical management. In particular, they were told that scientific literature on the efficacy of conservative surgery as a fertility-enhancing procedure in women with RV was scant, and that the complete excision of this type of lesions might be technically challenging and associated with intraoperative or postoperative complications. It was explained that only one study investigated the reproductive prognosis in untreated women with RV, showing that, at 24 month-follow-up, the cumulative pregnancy rate was similar between expectant management (46.8%) and surgery (44.9%) although the latter increased pain-free survival time (5).

In all of the patients (also for those with a longer follow-up), we arbitrarily decided to present the outcomes only of the 1st year of follow-up. In fact, after ≥12 months of regular unprotected sexual intercourses without achieving a conception, a couple should be considered to be infertile and, especially in patients with endometriosis, they should be counseled about the possibility of undergoing assisted reproductive techniques. The following additional inclusion criteria were used for the study: regular menstrual cycle (24–35 days); and male partner with normal semen analysis (accordingly to World Health Organization [WHO] criteria). The exclusion criteria were: age ≥40 years; previous live births; diminished ovarian reserve as shown by low antral follicle count (AFC; five or fewer) and increased basal FSH (>12 IU/L); previous surgery for endometriosis; previous adnexal surgery (not related to endometriosis); history/diagnosis of hydrosalpinx or history of pelvic inflammatory disease; and uterine malformations. In case of preconceptional use of hormonal therapy, patients were advised to try to conceive after at least one menstruation after the interruption of the medical treatment.

The analysis of the primary outcome was performed considering the whole study population. SPRs were compared between patients who directly tried to conceive (group E) and those who tried to conceive after surgery (group S). In addition, for secondary outcomes, a further division into four subgroups was performed to assess the secondary outcome of the study, the influence of OMAs on SPRs. Therefore, the study population was divided into patients with RV without OMA who directly tried to conceive (group eRV) or tried to conceive after surgery (group sRV), and patients with RV with OMA who directly tried to conceive (group eOMA) or tried to conceive after surgery (group sOMA). In addition, for tertiary outcomes, the main groups and the subgroups were further distinguished according to the age of the patients (<35 years and ≥35 years). Other outcomes were time to pregnancy, pregnancy outcomes, and reasons for stopping trying to conceive between the study groups. Definitions of pregnancy and of pregnancy outcomes were classified according to the International Committee for Monitoring Assisted Reproductive Technology and the WHO revised glossary of ART terminology (16).

Study Protocol

The diagnosis of RV and OMAs was based on transvaginal ultrasonography (TVS), which was performed by two expert gynecologists (S.F. and U.L.R.M.) using a Voluson E6 ultrasound