

Original Article

Reproductive performance of severely symptomatic women with uterine adenomyoma who wanted preservation of the uterus and underwent combined surgical–medical treatment

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Abstract

Objective: To assess the factors associated with future pregnancy and successful delivery in women who were treated for uterine adenomyoma with combination (surgical–medical) therapy using ultramini- or mini-laparotomy conservative surgery and gonadotropin-releasing hormone agonist.

Materials and Methods: One hundred and two women were evaluated. Items for analysis included: age, body mass index, and conception history; clinical symptoms of dysmenorrhea and menorrhagia; tumor location and preoperative serum level of cancer antigen 125 (CA125); the intraoperative findings of the weight of the removed tumor, and the uterine cavity opening.

Results: After excluding those patients using contraception or searching for an assisted reproductive technique, a total of 56 women were enrolled for analysis. Twenty-three (41.1%) women had 27 clinical pregnancies after 3 years of follow-up; 15 went on to deliver a healthy live-born child; two delivered preterm but healthy babies; seven had elective abortions; four had spontaneous abortions; and one had an ectopic pregnancy. The women who had a successful delivery during the 3-year follow-up after treatment tended to be younger, with a lower body mass index, lower baseline analgesic usage score, and lower preoperative serum level of CA125, be nulliparous, and with an adenoma in an anterior location. The linear regression model showed that age and baseline analgesic usage score were independent predictors of successful delivery and accounted for 56.5% of the total variance related to successful delivery.

Conclusion: Age was an important factor associated with future successful delivery, therefore, caution should be taken in considering the maintenance of future fertility in older women treated with surgical–medical therapy.

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Keywords: adenomyoma; conservative surgery; fertility; gonadotropin-releasing hormone agonist; mini-laparotomy

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Introduction

Uterine adenomyosis and its variant uterine adenomyoma (relatively localized characteristics of focal adenomyosis) not only present dysmenorrhea, menorrhagia, and chronic pelvic pain, but also may contribute to subfertility [1–4]. Hysterectomy is often considered the optimal treatment for uterus-related pathology, including adenomyosis, adenomyoma, myoma, and other diseases [5–9]. In addition, adenomyosis or adenomyoma penetrate into the normal myometrium diffusely, rendering their complete removal difficult and the possibility of recurrence high [10–12]. However, many women with uterine pathology have a strong desire to preserve the uterus, for which alternative treatment options are available [13–17].

Among these options, medical therapy, which may be the least invasive and most acceptable strategy, includes the use of prostaglandin inhibitors, oral contraceptive pills, progestogens, danocrine, and gonadotropin-releasing hormone (GnRH) agonist [18–21]. Unfortunately, the effect of these medical treatments is often transient and some patients cannot tolerate the side effects of long-term medical treatment; furthermore, the symptoms (especially pain) of uterine adenomyoma nearly always reappear when discontinuing medication [2].

For those who are refractory to or unsuitable for long-term medical treatment, conservative surgical approaches, including endomyometrial ablation, laparoscopic myometrial electrocoagulation, laparoscopic cytoreductive surgery, and excision of the myometrial adenomyoma through exploratory laparotomy, have been tried, although they are considered to be more invasive and radical treatments [22–24]. It is disappointing that the effects have been varied, and the highest effective rate was reported to be 50%. In addition, and of most importance, follow-up assessment has been of short duration and the long-term effect is not clear, although one report showed a successful pregnancy outcome in one patient [23].

As a result of the transient effect and possible poor compliance with medical therapy, and the only 50% effectiveness of the above-mentioned surgical approaches in managing uterine adenomyoma, the combination of conservative surgery and medical treatment with either GnRH agonist or danazol (surgical–medical treatment) has been tried [24–28]. The current study was a further follow-up of 102 women with uterine adenomyoma treated with a combination of ultramini- or mini-laparotomy conservative surgery and six courses of GnRH agonist [28]. Our goal was to focus on the fertility outcome of patients who did not receive reproductive assistance.

This may be one of the largest series to search for the critical factors related to the future pregnancy rate of patients who receive combination (surgical–medical) treatment for adenomyoma.

Materials and methods

Patients

The detailed information of this study has been published before [28]. The protocol was first explained to all prospective

participants after the institutional review board approval; thereafter, written informed consent was obtained from those actually enrolled in this study. Participants were eligible for the study if they were between 20 and 45 years of age. If they had severe dysmenorrhea with or without menorrhagia and a firm, enlarged uterus, they were given a tentative diagnosis of uterine adenomyoma and/or possible adenomyosis. The preoperative evaluation comprised a routine biochemistry workup, including cancer antigen 125 (CA125) in the luteal phase of every woman, complete blood count, and ultrasound examination. All patients received both transvaginal and abdominal ultrasound evaluations, with the exception of patients who denied ever having had a sexual experience, who were evaluated by abdominal ultrasound only.

The diagnosis of adenomyoma was confirmed by final pathology. Patients with other significant diseases of the pelvic organs, and/or other medical or surgical illnesses were excluded. Patients with the following diseases also were excluded: (1) medical or other chronic illness [e.g., anemia due to other causes, including hereditary anemia, blood loss from the upper or lower gastrointestinal tracts by stool routine and history (no occult blood), liver, renal, endocrine, or metabolic disorders, or poor nutrition status]; (2) a coexistence of extensive pelvic or uterine diseases (e.g., extensive endometriosis, ovarian endometrioma, or endometriosis associated with obliteration of the cul-de-sac, hydrosalpinx, extensive pelvic adhesion, pelvic inflammatory diseases, or multiple uterine fibroids). The exclusion criteria were use of a contraception method, searching for an assisted reproductive technique, and laparoscopic surgery for removal of adenomyoma.

Our study was conducted to determine the factors associated with the future pregnancy and successful delivery of women with uterine adenomyoma who were treated with a combination of ultramini- or mini-laparotomy conservative surgery and GnRH agonist therapy. Therefore, only women treated with this combination therapy who intended to become pregnant after treatment, and who were not using a contraception method or searching for an assisted reproductive technique were enrolled into the study. All patients were evaluated regularly for at least 3 years after completing therapy. The final analysis comprised 56 women.

Combined surgical–medical treatment

Ultramini- or mini-laparotomy was used in all surgical procedures [29–32]. The principles of reproductive surgery were strictly followed, thereby minimizing trauma to normal uterine tissue at all times [33–35]. The microsurgical technique was applied, including magnification, intermittent irrigation, and fine atraumatic instrumentation to decrease blood loss and prevent postoperative adhesion formation. The adenomyotic lesions were meticulously dissected, and careful removal of all nonmicroscopic lesions was assured by systematic and thorough palpation of the uterus. The surgical margins were electrocauterized to destroy all residual lesions, and pelvic adhesions were excised. To decrease bleeding, a routine local injection of 10 mL diluted 40–80× vasopressin (20 IU/mL

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