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Case Report Open Access

Successful Pregnancy Outcome Following Abdominal Myomectomy: A Case Report

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Abstract

Myomas are the benign tumors of uterus commonly affecting the female reproductive tract, especially in reproductive age group. They are often associated with recurrent abortions, excessive blood loss during menstruation and dysmenorrhoea. Less commonly myomas are also responsible for primary infertility in small but significant proportion of patients, as pregnancies do occur after myomectomy in number of patients suffering from myomas especially submucous and intramural. Hysterectomy is viewed as the definitive management of symptomatic uterine leiomyomas. Myomectomy is an alternative to hysterectomy for patients who desire childbearing, who are young, or who prefer that the uterus be retained.

Keywords: Myomas; Fibroids; Infertility; Myomectomy; Pregnancy

Introduction

Infertility is defined as 1 year of unprotected intercourse without conception [1,2]. It affects approximately 14% of couples and is a medical concern for 2.7 million women of reproductive age in the United States [2]. Infertility causes great distress to many couples, causing increasing numbers of them to seek specialist fertility care [3]. This condition may be further classified as primary infertility, in which no previous pregnancies have occurred and secondary infertility, in which a prior pregnancy, although not necessarily a live birth, has occurred. There are many causes of infertility including male and female factors [1,4]. Pathologies within uterine cavity are the cause of infertility in as many as 15% of couples seeking treatment and are diagnosed in greater than 50% of infertile patients. Uterine cavity abnormalities include endometrial polyps, endometrial hyperplasia, submucous myomas, intrauterine synechiae and congenital uterine anomalies. Leiomyomas, also called myomas or fibroids; are benign monoclonal uterine myometrial tumors that affect 25% to 45% of reproductive-age women. The mechanisms by which fibroids cause infertility are unknown, but may involve altered uterine contractility, impaired gamete transport or endometrial dysfunction [4]. Fibroids are a fairly frequent occurrence in the reproductive age group and are exclusively responsible for both infertility and pregnancy wastage in a small (5%) but significant proportion of patients [5]. Fibroids may be classified as submucous, intramural or subserous [6]. It is often assumed that fibroids cause infertility since pregnancies do occur after myomectomy and other treatments where the fibroids are removed [3]. We are presenting here a case of primary infertility which on infertility workup showed heterogeneous mass in uterus on ultrasonography and conceived after abdominal myomectomy.

Case Report

A 36 year old female patient attended the Gynecology Outpatient Department at PGIMER Chandigarh for first time with complaints of heavy menstrual flow for 5 years and primary infertility for 1.5 years. Her menses were regular, 2-3 days, soaking 6-7 pads per day followed by mild bleeding for up to 10-12 days with mild dysmenorrhoea. On her abdomen examination, firm, irregular, non-tender mobile abdominopelvic mass was felt (≈16 weeks). On ultrasonography, uterus was 16×7×12 cm; heterogeneous mass seen involving uterine body with anechoic areas in it, bilateral ovaries were normal, no free fluid was present in pelvic cavity.

Infertility work up was done including serum TSH, serum prolactin, Chest X-ray, semen analysis, which was within normal limits. Decision was taken for abdominal myomectomy under spinal anesthesia. Intraoperatively uterus was 16 week size, bilateral tubes and ovaries were normal. Multiple intramural and submucosal fibroids in anterior, posterior and fundal region were found. Largest fibroid was 4×5 cm. Bonney's hood incision and midline vertical incisions were given over anterior wall of uterus and multiple fibroids were removed by tunneling. The Uterine cavity was opened and 8-10 submucosal fibroids were removed. Multiple intramural fibroids in posterior wall were removed by transcavitary approach. A total of >35 fibroids were removed.

Two months later, USG showed multiple 0.2-0.5 cm fibroids. She received Leuprolide depot 3.75 mg twice, one month apart. Ovarian stimulation with gonadotropins done for 2 cycles and patient conceived on 2nd attempt of ovarian stimulation. She was admitted at 35 weeks with transverse lie and planned for Caesarean section at 37 weeks. She went into spontaneous labour at 36+6 wks for which emergency caesarean section was done. Intraoperatively single submucosal fibroid of 3+4 cm on anterior wall of uterus was present. She delivered a live born girl, 2.75 kg in about 1 year of abdominal myomectomy.

Discussion

Leiomyomas are an infrequent primary cause of infertility and have been reported as a sole cause in only a small percentage of infertile patients. Pregnancy loss or complications such as preterm labor, intrauterine growth restriction, and malpresentation can occur in women with leiomyomas, although most patients have uncomplicated pregnancies and deliveries [7]. The treatment of fibroids has historically been surgery, usually hysterectomy. Myomectomy is an option in women wishing to maintain fertility and for those desiring to keep their uterus [3]. The position of the uterine fibroid plays important role

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in infertility. The presence of submucous fibroid decreases the fertility rate. Subserosal fibroids do not affect the fertility rate but removing those does increase fertility. Intramural fibroid decreases fertility slightly but removal does not increase fertility. A metaanalysis of the effect of fibroids on fertility and the effect of myomectomy on fertility found that submucous fibroid that distort uterine cavity appear to decrease fertility, with ongoing pregnancy/ live birth rates decreased about 70%. Resection of submucous fibroids slightly increased fertility relative to infertile controls without fibroids [8]. Submucosal leiomyomas are a possible cause of infertility and are highly amenable to surgical treatment and subsequent restoration to fertility. 47% of women with primary infertility became pregnant and 63% of them did so in 11 months after surgery [9]. Subserosal fibroids do not appear to affect fertility while intramural (regardless of cavity distortion) and submucous myomas are associated with lower implantation and live birth rates. In women desiring fertility who require treatment of fibroids, myomectomy is the preferred approach. Removal of cavity-distorting intramural and submucous myomas is generally recommended prior to proceeding with the infertility treatment [4]. A retrospective study suggested that myomectomy for intramural and subserosal fibroids may significantly improve the reproductive performance of women presenting with infertility or pregnancy loss [10]. 65.2% of patients with otherwise unexplained infertility conceived after they underwent abdominal myomectomy for the removal of subserous or intramural myomata [11-13]. A submucous fibroid or an intramural fibroid distorting the uterine cavity, fibroids >5 cm and multiple fibroids are all indications for intervention in a women considering a pregnancy. Open myomectomy, i.e. removal of fibroid via laparotomy should be the route of choice when there are large subserosal or intramural fibroids (>7 cm), when multiple fibroids (>5 cm) are to be removed and when entry into the uterine cavity is to be expected [5].

A prospective, controlled study was performed in order to evaluate whether the location of uterine fibroids may influence reproductive function in women and whether removal of the fibroid prior to conception may improve pregnancy rate and pregnancy maintenance. Among the patients who underwent myomectomy, the pregnancy rates obtained were 43.3% in cases of submucosal, 56.5% in cases of intramural, 40.0% in cases of submucosal-intramural and 35.5% in cases of intramural-subserosal uterine fibroids, respectively. This study confirmed the important role of the position of the uterine fibroid in infertility as well as the importance of fibroids removal before the achievement of a pregnancy, to improve both the chances of fertilization and pregnancy maintenance [14]. Another retrospective study showed that abdominal myomectomy increases pregnancy and live birth rates and reduces the pregnancy loss. Conception rate was 25.7% before myomectomy and 68.5% after the surgery. The pregnancy loss and live birth rate was 71.4% and 28.6% pre myomectomy and 9.1% and 90.9% post myomectomy [15].

Conclusion

To conclude with, myomas affect the fertility especially the submucosal myomas. Myomectomy definitely improves the reproductive outcome in significant number of patients suffering from infertility and should be undertaken in infertile women with prior counseling, in whom other causes of infertility have been ruled out.

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