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Laparoscopic myomectomy and its pregnancy outcome in infertile patients

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Abstract

Objective: To assess the pregnancy outcome and pregnancy-related complications after laparoscopic myomectomy in infertile patients.

Methodology: It is a Retrospective analysis carried out from January 2011 to December 2016 at a Tertiary care advanced laparoscopic center. (Radhakrishna Multispeciality hospital, Bengaluru) in which One Hundred and ten infertile patients with at least one uterine leiomyoma of 6 cm in diameter underwent laparoscopic myomectomy and their outcome was studied in the form of Occurrence of pregnancy, delivery rate, and pregnancy-related complications.

Results: The average size of the myomas removed was 9 cm (range 6–12 cm). None of the procedures were converted to laparotomy. The postoperative rate of intrauterine pregnancy was 60% (n 66). 10 conceived with IVF (15.1%) and 8 (12.1%) after intra uterine insemination and 48 (72.7%) conceived spontaneously. None had abortion. One woman had a vaginal delivery without complications and 65 (97.77%) had a cesarean section. No antepartum or Intrapartum complications were reported. Surgical scar was clean without adhesions and intact in all the cases.

Conclusions: Laparoscopic myomectomy can be regarded as a safe alternative to abdominal myomectomy in the hands of the experienced surgeon, resulting in good subsequent pregnancy rates. Patient selection as well as meticulous surgical technique are the key factors in achieving a successful outcome.

Keywords: Laparoscopic myomectomy, infertility, fibroids

Introduction

Uterine myomas are a particularly challenging problem for young women who want to have children. Guidelines for treatment recommend that only symptomatic myomas or those with rapid growth distorting the cavity be treated [1]. Patients who want to preserve their fertility must receive conservative treatment, either medical or surgical. Gonadotropin-releasing hormone analogues are effective in reducing the size and symptoms of myomas, but side effects prevent their long-term use [2]. Fibroids may reduce uterine contractility, affecting sperm migration, and vascular changes can disturb the endometrium and may hinder implantation [3, 4]. Infertile women with fibroids undergoing assisted reproductive treatment have lower pregnancy rates than do age matched women with no fibroids [5]. However the characteristics of infertile patients suitable for myomectomy and of the fibroids which should be removed are still controversial. We sought to evaluate the effect of myomectomy as therapy for infertility and to define the factors that influence reproductive success after laparoscopic myomectomy.

Materials and Methods

Study included 110 patients who underwent laparoscopic myomectomy between January 2011 to December 2016 at tertiary care laparoscopic centre (Radhakrishna Multispeciality hospital). Their mean age was 32.5 years (range, 25-40 years) and they had an otherwise normal infertility evaluation. The evaluation included a semen analysis, day 2 FSH level, pelvic endovaginal ultrasound examination, and hysterosalpingography. All the patients had at least one myoma of 6cm in largest diameter on preoperative ultrasound examination.

Inclusion criteria

Patient with infertility who has at least one myoma of > 6cm, multiple myomas with other In fertility parameters normal like semen analysis and hormonal study

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Exclusion criteria

Patients with endometriosis, poor ovarian reserve, tuberculosis were excluded. This study was approved by our institutional review board. The patients were observed, and the pregnancy outcome was recorded. The main outcomes recorded were fertility rates after myomectomy and pregnancy outcomes.

Procedure

Laparoscopic myomectomy was performed as follows. Under general anesthesia with endotracheal intubation, the patient was placed in the low dorsolithotomy position. Before laparoscopy was performed, all patients underwent a diagnostic hysteroscopy. Laparoscopic myomectomy was performed with a 10-mm umbilical trocar sleeve and two 5-mm lower quadrant trocar sleeves, lateral to the rectus abdominalis muscle and inferior epigastric vessels. Vasopressin was injected in 1:10 dilution. A vertical incision, using a spoon monopolar electrode at high power (150 W pure cut), was made over the most distended part of the myometrium down to the myoma pseudocapsule. The tip of bowel holding was used to dissect between planes, and a 5-mm myoma corkscrew was used to apply traction to the myoma during dissection. Further bleeding was controlled with bipolar electrosurgery. Thereafter myoma incision was closed in 2 to 3 layers with barbed suture Quill bidirectional. Interceed (oxidized regenerated cellulose) was placed to prevent adhesions. Morcellation was performed laparoscopically. Port closure was done. Patients were followed up and ART was offered to those who did not conceive spontaneously. Patient who did not conceive with 6 cycles of timed intercourse were offered IUI Patient who did not conceive with 3 intra uterine insemination, underwent IVF. Statistical analysis was done using SPSS software version 16.

Results

All the 110 patients who underwent laparoscopic myomectomy. the average postoperative hospital stay was 24hours the mean age was 32.5 years (range 25-40) (table no1). The average size of the myomas removed laparoscopically was 6 cm. There were no major postoperative complications. 48 patients (72.72%), became pregnant without the use of assisted reproductive techniques. 10 (15.1%) conceived with IVF and 8(12.12%) conceived with IUI. Thus fertility rate was 60% (table no 3). None had spontaneous abortions in the first trimester and 66 delivered viable term neonates. One women had a vaginal delivery without complications and 65(98.48%) had a cesarean section at 37 weeks without any complications. Scar integrity was good and no adhesions were present in these cases (table no 4)

Table 1: Distribution Age Wise

Sr. no	Age	No of patients	percentage
1	25-30	30	27.28%
2	30-35	45	40.90%
3	35-40	35	31.82%
	Total	110	100

Table 2: Type of Myoma

Sr. no	Type of myoma	No of patients	percentage
1	Submucous myoma	45	40.90%
2	Intramural	30	27.28%
3	Multiple myomas	30	27.28%
4	subserous	5	4.5%

Table 3: Pregnancy Outcome

Pregnancy outcome	No of patients	percentage
Spontaneous	48	72.72%
Intrauterine insemination	8	12.12%
In vitro fertilization	10	15.15%
Total	66	100

Table 4: Mode of Delivery

Mode of delivery	number	percentage
LSCS	65	98.48%
Vaginal delivery	1	1.51%

Discussion

Many investigators agree that the presence of large myomas greater than 10 cm in diameter is a contraindication to laparoscopic surgery and requires medical treatment before surgery to reduce the size and vascularity of the lesions [6]. We did not use GnRH before surgery because we have found no difference in the degree of surgical difficulty between a 6-cm and an 8-cm laparoscopic myomectomy. Further, preoperative treatment with GnRH analogues for 3 months may result in degeneration of the myoma, making the surgical dissection more difficult. A recent comparison of laparoscopic myomectomy (n 570) with laparotomy (n 539) suggests that laparoscopic myomectomy should be reserved for patients with >4 myomas with diameters of <7 cm [7]. Dubuisson *et al.* performed 72 laparoscopic myomectomies for intramural myomas measuring >5 cm in 71 patients. [8] Only two procedures (2.7%) were converted to laparotomy, and no serious complications were observed. These studies confirm that careful patient selection can decrease the likelihood of complications with laparoscopic myomectomy and avoid the need to convert to laparotomy [9]. Appropriate patient selection is particularly crucial for infertile patients, in whom postoperative adhesions and uterine integrity are key factors in conceiving a child and carrying it to term. Adhesive complications after laparoscopic myomectomy are comparable to those after abdominal myomectomy when an atraumatic technique is used [10]. The fertility rate in this study (60%) was similar to previously published rates. Rosenfeld and Verkauf [11] reported intrauterine pregnancy rates of 66.2% and 66.7%, respectively, after abdominal myomectomy. Dubuisson *et al.* [24] in a study of 21 infertile patients who underwent laparoscopic myomectomy, obtained an intrauterine pregnancy rate of 33.3%. It must be noted that in this series, 12 patients had other infertility factors associated with the uterine myomas. Durai *et al.* [12] reported a pregnancy rate of 48.2% after laparoscopic myomectomy in a group of patients with unexplained infertility. It is interesting to note that in this series, the rate of conversion to laparotomy was 28.7%. This may suggest that the pregnancy rate after the laparoscopic procedure was somehow representative of a patient group with a better prognosis. In our study, all the patients previously selected for surgery underwent laparoscopic myomectomy, with no conversions to laparotomy. The quality of uterine repair after laparoscopic myomectomy has been debated [13]. The case reports of uterine rupture in the literature reflect isolated cases in early experiences with laparoscopic myomectomy [14-16]. When appropriate closure of the uterine defect is performed with the use of endoscopic suturing techniques, the outcomes should not be different from those after open-air suturing. No cases of uterine rupture during pregnancy or labor were observed in our study.

Conclusion

A valuable alternative to abdominal myomectomy, laparoscopic myomectomy is still a challenging procedure and requires an experienced laparoscopic surgeon. Laparoscopic myomectomy is best used for patients with myoma measuring 5-15 cm. For infertile patients specially with unexplained infertility with myoma laparoscopic myomectomy is an effective option for better pregnancy outcome.

References

1. American College of Obstetricians and Gynecologists. Quality assessment and improvement in obstetrics and gynecology. Washington, DC: American College of Obstetricians and Gynecologists, 1994, 96-8.
2. Broekmans FJ. GnRH agonists and uterine leiomyomas. *Hum Reprod.* 1996; 11:3-25.
3. Farrer-Brown G, Beilby JOW, Tarbit MH. The vascular patterns in myomatous uteri. *The Journal of Obstetrics and Gynaecology of the British Commonwealth.* 1970; 77:967-75.
4. Hunt JE, Wallach EE. Uterine factors in infertility-an overview. *Clin Obstet Gynecol.* 1974; 17:44-64.
5. Eldar Geva T, Meagher S, Healy DL. Effect of intramural, subserosal and submucosal uterine fibroids on the outcome of assisted reproductive technology treatment. *Fertil Steril.* 1998; 70:687-91
6. Daniel JF, Gurtey LD. Laparoscopic treatment of clinically significant symptomatic uterine fibroids. *J Gynecol Surg.* 1991; 7:37.
7. Durai E, Deval B, Darles C, Benifla JL, Guglielmina JN, Madelenat P. Myomectomie: coelioscopie trompes? *Contracept Fertil Sex.* 1996; 24:751-6.
8. Dubuisson JB, Chapron C, Chavat X, Gregorakis SS. Fertility after laparoscopic myomectomy of large intramural myomas: preliminary results. *Hum Reprod.* 1996; 11:518-22.
9. Mais V, Ajossa S, Guerreiro S, Mascia M, Solla E, Melis GB. Laparoscopic versus abdominal myomectomy: a prospective, randomized trial to evaluate benefits in early outcome. *Am J Obstet Gynecol.* 1996; 174:654-8.
10. Tulandi T, Murray C, Guralnick M. Adhesion formation and reproductive outcome after myomectomy and second-look laparoscopy. *Obstet Gynecol.* 1993; 82:213-5.
11. Verkauf BS. Myomectomy for fertility enhancement and preservation. *Fertil Steril.* 1992; 58:1-15.
12. Dubuisson JB, Chapron C, Chavat X, Morice P, Aubriot FX. Laparoscopic myomectomy: where do we stand? *Gynaecol Endosc.* 1995; 4:83.
13. Durai E, Dechaud H, Benifla JL, Renolleuau C, Panel P, Madelenat P. Fertility after laparoscopic myomectomy: preliminary results. *Hum Reprod.* 1997; 12:1931-4.
14. Dubuisson JB, Chapron C, Chavat X, Morice P. Uterine rupture during pregnancy after laparoscopic myomectomy. *Hum Reprod.* 1995; 10:1475-7.
15. Friedmann W, Maier RF, Luttkus A, Schafer APA, Dudenhausen JW. Uterine rupture after laparoscopic myomectomy. *Acta Obstet. Gynecol. Scand.* 1996; 75:683-4.
16. Harris WJ. Uterine dehiscence following laparoscopic myomectomy. *Obstet. Gynecol.* 1992; 80:545.