



Obstetrical Complications and Reproductive Outcomes of Laparoscopic Myomectomy



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Abstract

Introduction: The incidence of uterine fibroid in the general female population is estimated at 20-25%. A laparoscopic approach is more advantageous than laparotomy in postoperative pain, necessity of analgesia, recovery time, febrile morbidity and blood loss. Obstetric outcomes after 415 uterine myomectomies by laparoscopic versus laparotomic approach and did not describe any uterine dehiscence or rupture before or during delivery and the principal obstetric outcomes were similar between two groups.

Material and Method: We study results of 721 myomectomies performed at 2011-2014 in our department. In 502 cases (69,9%) laparoscopic access was performed

Result: Among 721 patients only 391 answer on questionnaire of the study. 61,9% of them – 242 patients were desire for the conception. The cumulative frequency of pregnancies was 50% (121 patients). Spontaneous pregnancy accounted for 75% of this number, 25% by IVF technologies. Rate of the thirist trimester miscarriages was 8,2%. 3 cases of uterine rupture in this study were registrated.

Keywords: Laparoscopy myomectomy; Fibroids; Uterine rupture; Infertility; Pregnancy after myomectomy

Introduction

Uterine fibroids are most often tumors in woman and incidence of uterine fibroid in the general female population is estimated at 20-25%. Unfortunately incidence rise up to 52% at the age above 35 years [1]. For the patients who are willing to get pregnant it is necessary to create the conditions to conception, carry pregnancy and delivery. It is high functional surgery in order to save or rehabilitate the reproductiveness. Manzo et al. [2] in 2006 study effect of intramural and subserous myomas on in vitro fertilization cycles and their perinatal results in 421 woman and make a conclusion what uterine fibroid less when 50mm impact in IVF cycle, but point that fibroids extend then 50mm might be removed preconceptionally.

Laparoscopic myomectomy is one of most common surgical reconstructive procedure since Semm K described it in late 1970s. A laparoscopic approach is more advantageous than laparotomy in postoperative pain, necessity of analgesia, recovery time, febrile morbidity and blood loss [3,4]. Kim M [5] study obstetric outcomes after 415 uterine myomectomies by laparoscopic versus laparotomic approach and did not describe any uterine dehiscence or rupture before or during delivery and the principal obstetric outcomes were similar between two groups [5]. Uterine rupture

after laparoscopic myomectomy is a rare complication as in shown on several case reports [6,7].

A group of researchers from Italy confirmed the effectiveness and safety of "correct" myomectomy Italian multicenter study on complications of laparoscopic myomectomy, Sizzi et al. [8]. The authors analyzed the results of more than 2,000 laparoscopic myomectomies and obtained the following results: hematoma at the uterine suture in 0.48% of the cases, injury to the urinary bladder in 0.04%, sarcoma in 0.09%, conversion in 0.34%, and incompetence of the uterine suture in 0.26% of the cases (on week 33 of pregnancy). Pregnancy (either spontaneous or after IVF) following myomectomy developed in 69.8% of the women.

We undertook the analysis of the frequency of compromised uterine suture after myomectomy documented in Moscow during the period from 2004 to 2008 (Table 1). This condition was found to occur in each fourth patient of the total of 132 cases (i.e. 27 or 20.5%). Certain consistent patterns were revealed. Specifically, most pregnant women suffered scar rupture during weeks 30-34 of pregnancy. The rupture was most frequently localized at the bottom of the uterus and its posterior wall. Myomectomy was indicated when the woman had small interstitial nodes measuring

3-4cm. 70% of the patients had no sutures placed of the myometrial defects (Figure 1). We think that it is the main cause behind such high frequency of post-myomectomy complications.



Figure 1: Second look laparoscopy 6 month after surgery-defect of uterine wall after myomectomy.

Table 1: The frequency of incompetence of the uterine suture (Moscow, from 2004 to 2008).

	Total	After LME
2004	19	4
2005	21	
2006	23	4
2007	33	6
2008	36	7
2004-08	132	27 (20,5%)

Material and Method

Table 2: Types of myomectomy.

Types of Myomectomy			
721 Myomectomeis	LS 495	LT 96	HRS 120
Age	34,2±1,2	36,7±1,1	37,7±1,9
Average size of dominant fibriod	41,22MM	71,36 _{MM}	28,2 _{MM}
Number of fibriods	2,04±0,7	4,94±0,9	1,69±0,3
Number of fibriods removed from one incision	1,07	1,73	1,02

We study results of 721myomectomies performed at 2011-2014 in our department. In 502 cases (69,9%) laparoscopic access was performed, 97(13%) were operated by laparotomy, 141 patients (19,5%) were treated transcervically (resectoscopic myomectomy). We registrate significant increase of open access in myomectomy in 2011-2014 versus 2005-2010. Previously open myomectomy rate was 2-7%. Types of approaches, size and number of removed fibroids presented in Table 2. The indications for the surgical intervention included symptoms of uterine fibroid, such as hemorrhage, cavity deformations, and some times the size of the tumour more than 4-5cm. An additional indication was the growth of myoma in the period of preceding pregnancy.

Result

Among 721 patients only 391 answer on questionnaire of the study, 61, 9% of them-242 patients were desire for the conception. The cumulative frequency of pregnancies was 50% (121 patients). Spontaneous pregnancy accounted for 75% of this number, 25% by IVF technologies. Rate of the thirst trimester miscarriages was

8,2%. We describe 3 cases of uterine rupture in this study.

Case no 1

Complete rupture at fundus at 35 weeks of gestation. In this patient uterus perforation was detected before myomectomy during abortion. Hysteroresectoscypc removing of type 1 fibroid 25mm located on anterior wall was performed. Spontaneously without any evidence of uterine contractions at uterine fundus arise at night time with perinatal mortality. Emergency laparotomy with hysterectomy was performed.

Case no 2

Uncomplete rupture at fundus at 33 weeks. Laparoscopic myomectomy of fibroid 60mm, located at the fundus was done. Incision was closed by single layer interrupted sutures. At ultrasound beginning of uterine rupture with scar dehiscence was detected. During emergency cesarean section scar repair were performed, baby survived.

Case no 3

Complete rupture at fund us at 38-39 weeks during labor. Previously by laparoscopy pedunculated fibroid 50mm size on the base less then 20mm was removed. Coagulation without suturing was done. During labor uterine rupture at the site of myomectomy was detected, emergency cesarean section with scar repair was done. Baby survived.

Conclusion

The following conclusions ensue:

- A. Myomectomy (Lt,Ls,HRs) is a high-technology operation that must be performed strictly based on the "best" surgery for the "best" patient principle!
- B. Al uterine incisions must be sutured adequately
- C. Patients after myomectomy are in high risk group and must be under observation of the physician during pregnancy
- D. Most uterine fibroids, especially small nodes measuring up to 4-5cm, that do not cause deformation of the uterus cavity, are asymptomatic and as a rule need not to be removed.
- E. Types 0-II myomas of any size causing deformation of the uterine cavity must be removed at the stage of pregravid preparation.
- F. Myomectomy is currently the method of choice for the surgical treatment at the stage of preparation for pregnancy.

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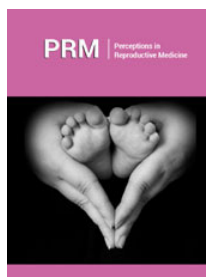
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