Volume 19 Issue 4
Originally issued as E1

Global Journal of Medical Research: E
Gynecology and Obstetrics
Volume 19 Issue 1 Version 1.0 Year 2019
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4618 & Print ISSN: 0975-5888

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*GJMR-E Classification:* *NLMC Code: WJ 140*




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# Uterine Rupture at 35 Weeks Gestational Age after Laparoscopic Myomectomy- A Case Report

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## I. Introduction

Uterine rupture is one of the most dreaded complications of childbirth with potentially grave consequences to the mother and fetus .It is known fact that the rate of uterine rupture increases in patients with previous scarred uterus in the form of previous cesarean sections, myomectomy and abortion with instrumentation. We are in an era of rising trend of myomectomy being performed in patients facing infertility or to alleviate menstrual symptoms. Laparoscopic myomectomy is generally preferred by the patients in view of early recovery and less post operative discomfort. The effects of laparoscopic myomectomy in the subsequent pregnancy is less studied. Here we report a case of spontaneous rupture of uterus at 35 weeks of gestation following laparoscopic myomectomy.

## II. Case Report

A 30 years old, gravida 2 para 1 was referred to our hospital at 35 weeks of gestation with complaints of pain abdomen and loss of fetal movements for the past 6 hours. Patient had a previous vaginal delivery of a healthy male baby 4 years back. She had complaints of dysmennorhoea and heavy menstrual bleeding 3 years after the first childbirth. She underwent laparoscopic myomectomy at a private hospital for the same complaints and a fundal fibroid was removed. No mention was made as to whether the endometrium was opened or not and hence the scar was taken as an unknown scar. Patient was not aware of the fact that she was supposed to postpone her next pregnancy and became pregnant within 2 months of the surgery.

The antenatal period was uneventful till 35 weeks. She was admitted with complaints of pain abdomen and reduced fetal movements for the past 6 hours. There was no history of bleeding per vaginum. On examination, the patient was found to be in a state of early shock with tachycardia, pallor and cold extremities. The abdomen was found to be tense and tender. Fetal bradycardia was noted. Ultrasound revealed the absence of retro placental clots .Patient was taken up for emergency cesarean section suspecting uterine rupture.

On opening the abdominal cavity, massive hemoperitoneum of around 1.5 liters was found. A lower transverse uterine incision was made and an alive male baby of birth weight of 2.6kg was delivered with a 5 minute Apgar of 4. Fundal rupture of size 3*3 cm at the site of myomectomy was seen and placenta was found to be adherent around the scar site. There was active bleeding from the site of rupture. Leaving the placenta in situ hysterectomy was proceeded. The post operative period was uneventful.

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*Figure 1:* Post operative picture of uterus with the site of rupture marked with an arrow.

## III. Discussion

This case has suggested two important issues namely:

1) Women with a history of previous laparoscopic myomectomy suffer from uterine rupture more than those who don't.
2) A short interval between myomectomy and pregnancy may affect the pregnancy outcome.

According to Centers of Disease Control and prevention[1], approximately 1 per cent of mortality is caused by uterine rupture. In a report from rural India, maternal mortality associated with uterine rupture was found to be around 30% (Chatterjee 2007)[2]. Uterine rupture can be broadly classified as primary or secondary rupture[3]. Primary rupture occurs in an unscarred uterus while secondary rupture occurs in a scarred uterus. Recent studies suggest that the incidence of rupture in a previous lower segment incision is 0.2-1.5% and in previous classical section is 4-9%. A recent review by Morimatasu et al[4] suggested that the rate of rupture after adenomyomectomy during pregnancy is 6.0% which is way much higher. There are many proposed reasons for this high incidence of rupture. The most plausible cause is that during laparoscopic myomectomy it is difficult to delineate exactly the border of the lesion due to a lack of sense of touch and deep sensation. This leads to leaving behind a portion of myoma near the scar site which further weakens the scar.

Although we are in an era of increasing trend of laparoscopic myomectomy, only six case publications including our present study have been published about uterine rupture in a case of previous laparoscopic myomectomy. The table below shows the comparision among the publications.



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*Table 1[5]:* Characteristics of six cases of uterine rupture during pregnancy following myomectomy

| Author et al (Year) | Age | Operative Method | Obs. Score | GA in Weeks | Uterine Bleeding | Outcome | Delivery Method |
|---|---|---|---|---|---|---|---|
| Suginami (2001) | | Laparoscopic | | 32 | + | Live birth | Emergency Cesarean |
| Wada (2006) | 33 | Laparoscopic | G0P0 | 30 | - | Live birth | Emergency cesarean |
| Morimatsu (2007) | 35 | Laparoscopic | G1P1 | 28 | - | Live birth | Emergency |
| Onishi (2011) | 40 | Laparotomy | G3P1 | 31 | - | Live birth | Emergency |
| Yukari (2014) | 42 | Laparoscopic | G2P0 | 35 | + | Live birth | Elective |
| Our case (2018) | 30 | Laparoscopic | G2P1 | 35 | - | Live birth | Emergency |

A study by Kim et al[6] about the comparision of obstetric outcomes after laparoscopic versus laparotomic myomectomy in 2013 concluded that rate of dehiscence is 1.85-4.9% after laparoscopic when compared to 0% after laparotomic myomectomy. A similar study by Tian et al in 2015 concluded the same.

A short inter-pregnancy interval was associated with increased risk of uterine rupture in patient with previous cesarean section. The same may hold good for myomectomy also. Case reports by Wada et al[7] and Morimatsu et al also has a short interval of 1 and 12 months respectively. Hence, it is wise to advise patients to plan pregnancy at least 18 months after myomectomy. To further support the previous studies, Bujold et al[8] demonstrated that inter delivery interval of more than 24 months decreased the rupture rates.

In the recent past, many studies are conducted to develop surgical procedures to conserve uterus for future pregnancy in patients with huge fibroids. Osada et al[9] recommends triple flap method of closure and have reported zero uterine rupture in the subsequent pregnancies whereas Huang et al[10] have described double flap method of closure after laparoscopic adenomyomectomy. Recent advances in the management of fibroid including MR guided Focussed Ultrasound Surgery[11,12] offer promising results.

In spite of these enormous advances, there is a still a lack of enough studies highlighting the adverse pregnancy outcomes in patients with previous laparoscopic myomectomy. Further reports must be evaluated to develop safe operative techniques and to establish guidelines about management of pregnancy post myomectomy.

## IV. Conclusion

The present case study highlights that we should have a strong suspisicion of uterine rupture in patients with previous laparoscopic myomectomy. Patients should be explained the risks of short interval between surgery and pregnancy. Planning of conservative management of fibroid in reproductive age group should be done with caution.

*Funding:* None

*Conflict of Interest:* None declared

*Ethical Approval:* Not required

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