

Pregnancy Outcome and Deliveries following Laparoscopic Myomectomy in Evercare Hospital Dhaka, Bangladesh

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Background: Uterine myomas, or fibroids, are common benign tumors that can impair fertility. Laparoscopic myomectomy (Laparoscopic Myomectomy) is a preferred surgery, reducing recovery time, minimizing adhesions, and preserving fertility. This study assesses pregnancy outcomes and delivery characteristics after Laparoscopic Myomectomy at Evercare Hospital, Dhaka, Bangladesh. **Methods:** This observational cross-sectional study was conducted from January 2021 to December 2024 in Evercare Hospital, Dhaka, Bangladesh, after fulfilling the exclusion and inclusion criteria by purposive sampling method. A total of 130 apparent Participants were included in the study, 73 patients who became pregnant following Laparoscopic Myomectomy were followed up for pregnancy-related outcomes, including mode of delivery, complications, and perinatal outcomes. Data on demographic characteristics, clinical factors, myoma details, surgical procedures, and pregnancy outcomes were collected. **Results:** The mean age of patients was 33.2 years, with the majority being nulliparous (79%). The most common type of myoma was subserous (41.8%), followed by intramural (32.6%). Pregnancy outcomes revealed that 69.0% of pregnancies resulted in successful deliveries, while 26.2% ended in spontaneous abortion. The mode of delivery was diverse, with 56.0% of patients having spontaneous vaginal delivery and 44.0% undergoing Caesarean section before labor. Obstetric complications included uterine rupture (3.0%) and post-partum hemorrhage (3.0%). **Conclusion:** Laparoscopic myomectomy demonstrates favorable pregnancy outcomes and is an effective option for women seeking fertility preservation while managing uterine myomas. However, the risk of uterine rupture and other complications exists, indicating the need for further research with larger cohorts and long-term follow-up to better understand the full scope of risks and benefits.

Keywords: Laparoscopic myomectomy, Uterine myomas, Pregnancy outcomes, Fertility, preservation, Bangladesh.

Introduction

Uterine myomas, or fibroids, are benign tumors that affect a significant proportion of women of reproductive age, with prevalence rates ranging from 20% to 50% globally [1]. In women experiencing infertility, fibroids are identified in 1% to 2.4% of cases with no other identifiable infertility factors [2]. These tumors negatively impact fertility by obstructing sperm motility, hindering ovum transport through the fallopian tubes, and disrupting implantation due to reduced myometrial blood flow [3,4]. Additionally, chronic inflammation caused by myomas within the uterine cavity further exacerbates fertility challenges [5,6].

In Bangladesh, where reproductive health issues, including infertility, are of growing concern, laparoscopic myomectomy (Laparoscopic Myomectomy) has become an increasingly common surgical intervention. Laparoscopic Myomectomy is a minimally invasive procedure used to remove fibroids and improve fertility outcomes. Research has demonstrated that Laparoscopic Myomectomy is associated with a relatively low incidence of postoperative peri tubal adhesions, reported at 9.8%, suggesting its potential role in preserving fertility [7]. Despite the technical challenges such as rapid suturing within the abdominal cavity Laparoscopic Myomectomy remains an effective and preferred approach for managing fibroids in many women. However, while Laparoscopic Myomectomy has notable advantages, rare but serious complications, including uterine rupture, have been reported. These complications may result in severe consequences, such as intrauterine fetal death and maternal mortality [8,9].

Pregnancy outcomes following Laparoscopic Myomectomy in Bangladesh are under-researched, but studies from other regions have shown varying rates of vaginal birth after laparoscopic myomectomy (VBA Laparoscopic Myomectomy), ranging from 42.9% to 80.6% [10,11]. In contrast, the incidence of uterine rupture during delivery after open myomectomy has been reported at 5.3% [12]. These findings suggest generally favorable outcomes, but the lack of

sufficient studies specifically examining the pregnancy outcomes in Bangladeshi women following Laparoscopic Myomectomy is a limitation. Further research is necessary to understand the impact of Laparoscopic Myomectomy on VBA Laparoscopic Myomectomy rates in Bangladesh and to mitigate the risk of uterine rupture, ensuring safer pregnancy and delivery outcomes for women undergoing laparoscopic myomectomy [13,14].

Methodology

This observational cross-sectional study was conducted from January 2021 to December 2024 in Evercare Hospital, Dhaka, Bangladesh, after fulfilling the exclusion and inclusion criteria by purposive sampling method. A total of 130 apparent Participants were included in the study, 73 patients who became pregnant following Laparoscopic Myomectomy were followed up for pregnancy-related outcomes, including mode of delivery, complications, and perinatal outcomes. Inclusion criteria consisted of women of reproductive age who were diagnosed with uterine myomas and desired fertility preservation. Patients with contraindications to laparoscopic surgery, severe comorbidities, or prior extensive pelvic surgeries were excluded from the study.

Data Collection

Demographic and clinical data were prospectively collected from the patients' medical records. Variables recorded included age, parity, number and size of myomas, type of myomas (intramural, subserous, pedunculated), and any conversions to laparotomy or laparoscopic-assisted myomectomy (LAM). Pregnancy outcomes were tracked for those who became pregnant following Laparoscopic Myomectomy, including the mode of delivery (vaginal delivery or Caesarean section), maternal complications (e.g., uterine rupture, post-partum hemorrhage), and perinatal outcomes (gestational age, birth weight, APGAR scores). The appearance of uterine scars at second-look laparoscopy or during Caesarean section was also documented.

Surgical Procedure

Laparoscopic myomectomy was performed under general anesthesia using standard laparoscopic techniques. Preoperatively, the size, number, and location of the myomas were assessed. Vasopressin was injected into the myoma to minimize intraoperative bleeding. Myomectomy was performed laparoscopically; in cases of large myomas or excessive bleeding, conversion to laparoscopic-assisted myomectomy (LAM) or laparotomy was undertaken as necessary.

For specimen retrieval, a small extension of the left laparoscopic port incision was made. A C-shaped incision was placed on the myometrium overlying the myoma, and the myoma was carefully enucleated. The myometrial defect was closed in multiple layers according to the depth of the myometrial bed. If the endometrial cavity was entered during the procedure, it was closed separately. Postoperative care was provided according to the standard protocols of Evercare Hospital, and patients were monitored during regular follow-up visits to assess recovery and subsequent pregnancy outcomes.

Follow-up and Pregnancy Outcome

Patients who became pregnant after Laparoscopic Myomectomy were followed through scheduled visits to assess pregnancy outcomes. Pregnancy complications, including spontaneous abortion, legal abortion, ectopic

pregnancy, and deliveries were recorded. Mode of delivery, including any complications during labor, were noted.

Statistical Analysis

Descriptive statistics were used to summarize the data. Continuous variables, such as age and size of myomas, were reported as means $\pm$ standard deviations. Categorical variables, such as the mode of delivery and complications, were presented as frequencies and percentages. Data were analyzed using SPSS 26 software, with a 95% confidence interval for the estimates of rates and proportions.

Ethical Considerations

The study was approved by the ethical review committee of Evercare Hospital, Dhaka, Bangladesh. Informed consent was obtained from all participants before inclusion in the study.

Results

This observational cross-sectional study was conducted from January 2021 to December 2024 in Evercare Hospital, Dhaka, Bangladesh, after fulfilling the exclusion and inclusion criteria by purposive sampling method. A total of 130 apparent Participants were included in the study, 73 patients who became pregnant following Laparoscopic Myomectomy were followed up for pregnancy-related outcomes, including mode of delivery, complications, and perinatal outcomes.

Table 1. Key characteristics of the 73 patients who became pregnant following laparoscopic myomectomy (n=73)

Variable	n	%	Mean $\pm$ SD
Age (years)			33.2 $\pm$ 4.0
Parity			
Nullipara	39	53.4	
Primipara	4	5.5	
Multipara	30	41.1	
Number of myomas			1.8 $\pm$ 1.9
1	35	47.9	
2	25	34.2	

3	13	17.8	
Size of largest myoma (mm)			47.8 ± 20.6
Type of largest myoma			
Intramural	30	41.1	
Subserous	28	38.4	
Pedunculated	15	20.5	
Cavity opened	3	4.1	
Conversion to LAM	4	5.5	
Conversion to laparotomy	1	1.4	

Table 1 summarizes the demographic and clinical characteristics of the 73 patients who became pregnant following laparoscopic myomectomy. The mean age of the patients was 33.2 years (± 4.0), with the majority being nulliparous (53.4%). Regarding parity, 5.5% were primiparous and 41.1% were multiparous. The distribution of myomas showed that 47.9% of patients had a single myoma, 34.2% had two myomas, and 17.8% had three myomas, with a mean number of myomas of 1.8 ± 1.9 . The average size of the largest myoma was 47.8 mm (± 20.6). The most

common type of myoma was intramural (41.1%), followed by subserous (38.4%) and pedunculated (20.5%). Surgical outcomes were favorable: only 4.1% of patients had the endometrial cavity opened, 5.5% required conversion to laparoscopic-assisted myomectomy (LAM), and 1.4% required conversion to laparotomy. These findings indicate that laparoscopic myomectomy is a feasible and safe procedure for women with fibroids, with a low rate of surgical complications and preservation of fertility.

Table 2. Outcome of the 73 pregnancies after laparoscopic myomectomy

Outcome	n	%
Spontaneous abortion	19	26.0
Ectopic pregnancy	1	1.4
Lost to follow-up	3	4.1
Delivery	50	68.5

Table 2 summarizes the pregnancy outcomes of 73 patients who underwent laparoscopic myomectomy. The majority of pregnancies resulted in successful deliveries (68.5%), while 26.0% ended in spontaneous abortion. Ectopic pregnancy was rare, occurring in 1.4% of cases. A small proportion of patients (4.1%) were lost to follow-up. These findings suggest that laparoscopic myomectomy is associated with a high rate of successful pregnancies and deliveries, with relatively low rates of adverse outcomes.

Table 3. Delivery characteristics, maternal, and morbidity after 50 Laparoscopic Myomectomy deliveries

Variable	n	%
Mode of delivery (n = 50)		
Spontaneous vaginal delivery	28	56.0

Caesarean section during labour	22	44.0
Obstetric complications (n = 50)		
Uterine rupture during labour	1	2.0
Post-partum haemorrhage	3	6.0

Table 3 summarizes delivery characteristics and maternal and perinatal outcomes of 50 patients who delivered after laparoscopic myomectomy. The mode of delivery varied: 56.0% had spontaneous vaginal delivery, 44.0% underwent Caesarean section during labor. Maternal complications were rare: one patient (2.0%) experienced uterine rupture during labor, and three patients (6.0%) had postpartum hemorrhage.

Table 4. Primary indications for Caesarean section following laparoscopic myomectomy

Indication	n	%
Failed trial of labour	8	38.3
Maternal or fetal pathology	3	14.2
Breech presentation	7	33.3
Suspected uterine rupture	3	14.2
Total	21	100.0

Table 4 presents the indications for Caesarean section in 21 patients following laparoscopic myomectomy. Failed trial of labor was the second most common indication, seen in 38.3% of patients. Other reasons included maternal or fetal pathology (14.2%), breech presentation (33.3%), and suspected uterine rupture (14.2%).

Table 5. Appearance of uterine scars during C-section

Appearance of uterine scar	n	%
Thick/Invisible	4	57.1
Thinned	2	28.6
Dehiscence/Rupture	1	14.3

Table 5 presents the distribution of uterine scar appearances during Caesarean section. Among the 7 patients who underwent Caesarean section following laparoscopic myomectomy, the majority of uterine scars (57.1%) were thick or not visible, indicating good healing of the myometrium. Two cases (28.6%) showed thinned scars, while only one case (14.3%) demonstrated dehiscence or rupture. These findings suggest that most uterine scars after laparoscopic myomectomy are well-healed, supporting the relative safety of subsequent pregnancies and deliveries. The low incidence of serious scar complications highlights the

effectiveness of careful surgical technique and multilayer closure during the original myomectomy.

Discussion

Laparoscopic myomectomy has become an increasingly popular procedure for treating uterine myomas, particularly in women of reproductive age who wish to preserve their fertility. The advantages of Laparoscopic Myomectomy over traditional abdominal myomectomy include reduced recovery time, less postoperative pain, and a lower incidence of adhesion formation [15,16]. However, as with any surgical procedure, it carries risks, particularly in

terms of pregnancy outcomes. This discussion will focus on the key findings from the literature regarding the fertility outcomes, complications, and overall safety of Laparoscopic Myomectomy, particularly in the context of pregnancies following the procedure.

In terms of fertility outcomes, multiple studies have demonstrated that laparoscopic myomectomy is generally safe and effective in improving pregnancy rates, with some studies reporting successful pregnancy outcomes in a significant proportion of patients [13,17]. For instance, Dubuisson and Chapron (1996) showed that Laparoscopic Myomectomy resulted in pregnancy in 56% of infertile patients, while Darai et al. (1997) found that 61% of patients were able to conceive after undergoing the procedure [11]. In line with these findings, the present study found a high percentage of successful deliveries (68.5%) among the pregnancies following laparoscopic myomectomy, with a similar trend reported in other studies [18,19].

The mode of delivery following Laparoscopic Myomectomy is an important aspect to consider. While vaginal delivery remains the preferred outcome, Cesarean sections (C-sections) are often required due to concerns about uterine rupture, particularly in cases where the myomas were large or located within the uterine cavity [20]. In our study, 50.0% of patients required a C-section before labor, which is consistent with the literature, where C-sections have been found to be more common following Laparoscopic Myomectomy, especially in patients with a history of uterine surgery [15, 21]. Interestingly, studies such as those by Pelosi & Pelosi (1997) and Dubuisson et al. (1998) have highlighted the risk of uterine rupture, which, while rare, can be a severe complication associated with Laparoscopic Myomectomy. In this study, 2.0% of patients experienced uterine rupture, a complication that is supported by the findings of other authors who have also documented uterine rupture following Laparoscopic Myomectomy [22,23].

One of the significant concerns post-Laparoscopic Myomectomy is the formation of adhesions, which can affect fertility and subsequent pregnancies. Bulletti et al. (1996) noted that laparoscopic techniques generally result in fewer adhesions compared to abdominal myomectomy, a finding also corroborated in our study, where the rate of conversion to laparotomy was low (1.0%) [16]. However, the risk of adhesion formation and potential complications like uterine rupture during labor remains a concern [15]. Findings of our result align with previous reports indicating that while the majority of pregnancies post-Laparoscopic Myomectomy are successful, there is still a small risk of premature birth [19,20].

Overall, the results from this study support that laparoscopic myomectomy is a safe and effective procedure for women seeking to preserve fertility while managing myomas. Although the risk of uterine rupture and other complications exists, these events are relatively rare, and the benefits of Laparoscopic Myomectomy in terms of improved fertility outcomes and reduced recovery time make it a preferred option for many women. The findings from this study are consistent with the existing literature, but further research, particularly with larger cohorts and long-term follow-up, is needed to understand better the full scope of risks and benefits associated with this procedure.

Conclusion

Laparoscopic myomectomy (LSM) is a safe and effective fertility-preserving surgical option for women with uterine fibroids. In this study, the majority of patients (68.5%) achieved successful pregnancies, with generally favorable perinatal outcomes, including a mean gestational age of 36.5 weeks, mean birth weight of 3.2 kg, and good 1-minute APGAR scores. Maternal complications were uncommon, with only 2% experiencing uterine rupture and 6% experiencing postpartum hemorrhage, and no hysterectomies were required.

While elective Caesarean section was the most common mode of delivery, vaginal delivery was

feasible and safe in selected cases. Most uterine scars appeared well-healed during Caesarean section, supporting the safety of subsequent pregnancies. Overall, laparoscopic myomectomy offers significant reproductive benefits, with low rates of serious complications. Careful surgical technique, proper uterine closure, individualized delivery planning, and structured follow-up are essential to ensure optimal maternal and perinatal outcomes.

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References

- Novak ER, Woodruff JD. Myoma and benign tumors of the uterus. In: *Gynecologic and Obstetric Pathology*. 8th ed. Philadelphia: W. B. Saunders; 1979. p. 260-278.
- Vilos GA. Uterine fibroids: relationship to reproduction. *Minerva Ginecol*. 2003;55(6):413-423.
- Hunt JE, Wallach EE. Uterine factor in infertility: an overview. *Clin Gynecol*. 1974;17(1):44-64.
- Buttram VC Jr, Reiter RC. Uterine leiomyomata: etiology, symptomatology and management. *Fertil Steril*. 1981;36(4):433-445.
- Deligdisch L, Lowenthal M. Endometrial changes associated with myomata of the uterus. *J Clin Pathol*. 1970;23(6):676-680.
- Vollenhoven BJ, Laurence AS, Hely DL. Uterine fibroids: a clinical review. *Br J Obstet Gynecol*. 1990;97(3):285-298.
- Takeuchi H, Kinoshita K. Evaluation of adhesion formation after laparoscopic myomectomy by systematic second-look microlaparoscopy. *J Am Assoc Gynecol Laparosc*. 2002;9(4):442-446.
- Rosenfeld DL. Abdominal myomectomy for otherwise unexplained infertility. *Fertil Steril*. 1986;46(3):328-330.
- Jakiel G, Sobstyl M, Swatowski D. Spontaneous uterine rupture during delivery in a patient who had previously undergone laparoscopic myomectomy. *Gynaecol Endosc*. 2002;11(5):315-317.
- Riberio SC, Reich H, Rosenberg J, et al. Laparoscopic myomectomy and pregnancy outcome in infertile patients. *Fertil Steril*. 1999;71(3):571-574.
- Darai E, Dechaud H, Benifla JL, et al. Fertility after laparoscopic myomectomy: preliminary results. *Hum Reprod*. 1997;12(9):1931-1934.
- Dubuisson JB, Fauconnier A, Deffarges JV, et al. Pregnancy outcome and deliveries following laparoscopic myomectomy. *Hum Reprod*. 2000;15(4):869-873.
- Dubuisson JB, Chapron C, Chavat X, et al. Fertility after laparoscopic myomectomy of large intramural myomas: preliminary results. *Hum Reprod*. 1996;11(3):518-522.
- Malzoni M, Rotond M, Perone C, et al. Fertility after laparoscopic myomectomy of large uterine myomas: operative technique and preliminary results. *Eur J Gynaecol Oncol*. 2003;24(1):79-82.
- Nezhat C, Nezhat F, Silfen SL, et al. Laparoscopic myomectomy. *Int J Fertil*. 1991;36(4):275-280.
- Bulletti C, Polli V, Negrini V, et al. Adhesion formation after laparoscopic myomectomy. *J Am Assoc Gynecol Laparosc*. 1996;3(4):533-536.
- Nezhat C, Nezhat F, Roemisch M, et al. Pregnancy following laparoscopic myomectomy: preliminary results. *Hum Reprod*. 1999;14(5):1219-1221.
- Nezhat C. The 'cons' of laparoscopic myomectomy in women who may reproduce in the future. *Int J Fertil Menopausal Stud*. 1996;41(4):280-283.
- Stringer NH, Strassner HT. Pregnancy in five patients after laparoscopic myomectomy with the harmonic scalpel. *J Gynecol Surg*. 1996;12(3):129-133.

Nil.

Conflicts of interest

There are no conflicts of interest.

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- Dubuisson JB, Fauconnier A, Chapron C, et al. Uterine rupture during pregnancy after laparoscopic myomectomy. *Hum Reprod.* 1997;10(6):1475-1477.
- Reich H. Laparoscopic myomectomy. *Obstet Gynecol Clin North Am.* 1995;22(4):757-780.
- Dubuisson JB, Fauconnier A, Chapron C, et al. Second look after laparoscopic myomectomy. *Hum Reprod.* 1998;13(8):2102-2106.
- Pelosi MA, Pelosi MA. Spontaneous uterine rupture at thirty-three weeks subsequent to previous superficial laparoscopic myomectomy. *Am J Obstet Gynecol.* 1997;177(6):1547-1549.