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Case Report

Challenging myomectomy of large cervical fibroid - successful fertility outcome: a case report

Jesmine Banu[1]*, Mostafa M. Altarique[1], Rebeka Sultana[2], Nastaran Lasker[1], S. M. Munira[1], Shaheen A. Anwary[1], Ariful Islam[1]

[1]Department of Reproductive Endocrinology and Infertility, Bangabandhu Sheikh Mujib Medical University, Dhaka, Bangladesh
[2]Department of Obstetrics and Gynaecology, Directorate General of Health Services, Dhaka, Bangladesh

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***Correspondence:**
Dr. Jesmine Banu,
E-mail: drjesminebanu@gmail.com

ABSTRACT

The cervical fibroids are rare and large cervical fibroids are rarer. Removing large cervical fibroids when a patient desires future fertility is a surgical challenge because of the risks of significant blood loss, bladder and ureteric injury, and unplanned hysterectomy. For women who desire future fertility, myomectomy can improve the chances of pregnancy by restoring normal anatomy. In this article, we describe a successful pregnancy following the restoration of the normal anatomy of the cervix by a challenging myomectomy in a sub-fertile patient with a large cervical fibroid. A 38-year-old nulliparous lady presented to the reproductive endocrinology and infertility (REI) department of Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh with primary sub-fertility for five and half years, and dysmenorrhea for 2 years. She was a regularly menstruating woman with average flow and duration. Being a resident of Canada, she was diagnosed there as a case of large cervical fibroid (10×9 cm) by TVS extending up to the posterior wall of the uterus, cervix, and upper vagina impacted in the pouch of Douglas during infertility workup. For this reason, she was advised for in vitro fertilization (IVF) keeping the fibroid in situ. However, due to the failure of embryo transfer with this large cervical fibroid, she was advised for embryo transfer following myomectomy. Hysteroscopic myomectomy was tried first (in February 2019 in Canada) but was unable to be removed. Then Laparotomy was tried (in September 2019 in Canada) but failed again. Being a complicated case, she was counselled there for myomectomy by a multidisciplinary approach with the high risk of injury to the urinary bladder, ureter, bowel, and other pelvic structures. But she refused to do a myomectomy there after knowing the dreadful complications with the fear of injury to the pelvic organs. With this problem, she went to different institutions both in the country and abroad but couldn't get the proper treatment. Finally, she visited the outpatient department (OPD) of the REI department, BSMMU, Dhaka, Bangladesh with the hope of getting the most appropriate treatment for her and she was reassured, counselled, and managed by a challenging myomectomy (in March 2022) through a combined approach of the vagina and abdominal route without any significant intra and post-operative complications. Her whole post-operative period was uneventful, the anatomy of the cervix was restored and detected by TVS, and trial transfer was done before embryo transfer with easy negotiation to the cervix. Finally, she conceived 1 year after myomectomy with easy frozen embryo transfer. Myomectomy in expert hand even for the large cervical fibroid can restore normal anatomy and can achieve successful pregnancy outcomes.

Keywords: Large cervical fibroid, Myomectomy, Infertility

INTRODUCTION

Uterine fibroids are the most common benign smooth muscle tumours of the genital tract in women between 35 and 40 years old.[1,2]

The prevalence of uterine fibroids varies widely across literature, from 4.5% to 68.6%, depending on characteristics such as country or region, method of diagnosis, and health status.[3] The uterine corpus is the common site of fibroids, cervical fibroids are rare with an incidence of 0.6%.[4] Various classifications of cervical fibroids have been proposed; based on their location they can be classified as extra-cervical type (subserosal fibroid) and intracervical type fibroids located within the cervix. Cervical fibroids can be anterior, posterior, lateral, and central depending on their position.

Anterior cervical fibroid causes urinary retention whereas posterior cervical fibroid compresses the rectum and results in constipation.[5] Lateral cervical fibroid burrows in broad ligament and expands it. Central cervical fibroid equally expands in all directions and produces mainly pressure symptoms.[6] Diagnostic dilemma is usually there with large cervical fibroid. Although magnetic resonance imaging (MRI) and ultrasound have improved pre-operative diagnosis, but final diagnosis is always at laparotomy followed by histopathology. Treatment of cervical fibroid is myomectomy or hysterectomy. Myomectomy in a large cervical fibroid is technically difficult as there is an increased risk of injury to the ureters because of distorted pelvic anatomy hence it is always better to trace the course of the ureter before removing huge fibroids or applying clamps during hysterectomy.[7] Due to inaccessibility and close proximity to the bladder and ureter, surgery should be done meticulously with expert hands.[8]

In this study, we are reporting a case of achieving pregnancy following challenging the surgical removal of a big cervical fibroid.

CASE REPORT

A 38-years nulliparous lady (BMI of 27.4 kg/m^2) presented to the department of reproductive endocrinology and infertility of Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh with primary sub-fertility for five and half years, dysmenorrhea for 2 years. She was a regularly menstruating woman with average flow and duration.

Being a resident of Canada during her infertility work she was diagnosed there as a case of large cervical fibroid (10×9 cm) by TVS extending up to the posterior wall of the uterus, cervix, and upper vagina impacted in the pouch of Douglas and laterally extending towards the broad ligament. For this reason, she was advised in Canada for IVF keeping the fibroid in situ. However, due to the failure of embryo transfer with this large cervical fibroid, she was advised for embryo transfer following myomectomy. Hysteroscopic myomectomy was tried first (in February 2019 in Canada) but was unable to remove it. Then laparotomy was tried (in September 2019 in Canada) but failed again.

Being a complicated case, she was counselled there for myomectomy by a multidisciplinary approach with the high risk of injury to the urinary bladder, ureter, bowel, and other pelvic structures. But she refused to do myomectomy there after knowing the dreadful complications with the fear of injury to the pelvic organs. With this problem, she went to different institutions both in the country and abroad but could not get the proper treatment.

Finally, she visited the OPD of the reproductive endocrinology and infertility department, BSMMU, Dhaka, Bangladesh with the hope of getting the most appropriate treatment for her and was reassured, counselled, and managed accordingly.

She was non-diabetic and normotensive. From TVS and MRI (Figures 1-3) a large cervical fibroid (10×9 cm) located at the posterior wall of the lower uterine segment and cervix was found without any encroaching effect on the endometrium.

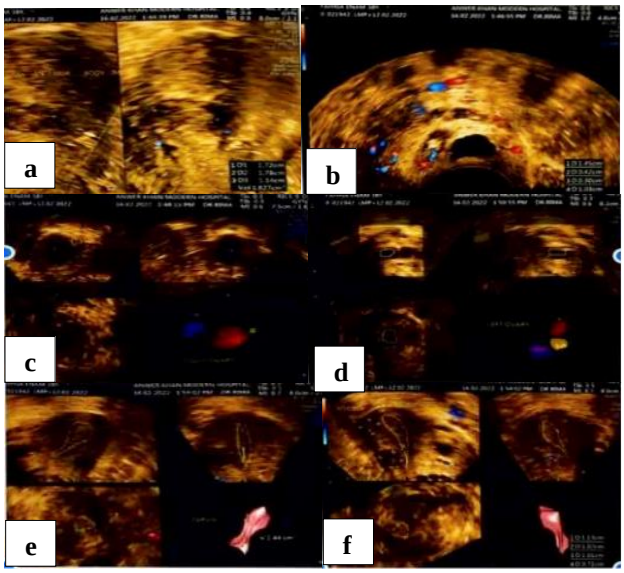

Figure 1: (a-f) Ultrasound of the patient.

Her hormone profile was normal with a good ovarian reserve (AMH 2.5 ng/ml). Pre-operative IVU report was normal. The husband was normozoospermic.

With all aseptic precautions under general anaesthesia (G/A), at first, the approach was through the vaginal route, a longitudinal incision was given in the upper part of the posterior cervix extending up to the posterior wall of the lower uterine segment with mono-polar coagulation. Before incision, diluted vasopressin was injected to minimize blood loss. Margins were held up with the tissue

forceps. Then blunt dissection was done with a finger and a large cervical fibroid was found measuring about 10×9 cm extending up to the posterior uterine wall. Removal of myoma was done by piecemeal with cutting diathermy but it was difficult to remove the whole myoma from the vaginal route due to impactedness in the pouch of Douglas. After removing the vaginal portion of the myoma, the vaginal route was converted to the abdominal route (laparotomy) followed by the removal of the rest of the myoma by piecemeal which was impacted in the pouch of Douglas by extending the incision. Meticulous dissection and careful handling were done to avoid any accidental injury to the ureter, bladder, and rectum. After the complete removal of the fibroid, the posterior wall of the uterus was repaired first by abdominal route by mattress suture followed by repair of the remaining portion of the cervix and upper portion of the posterior vagina by vaginal route.

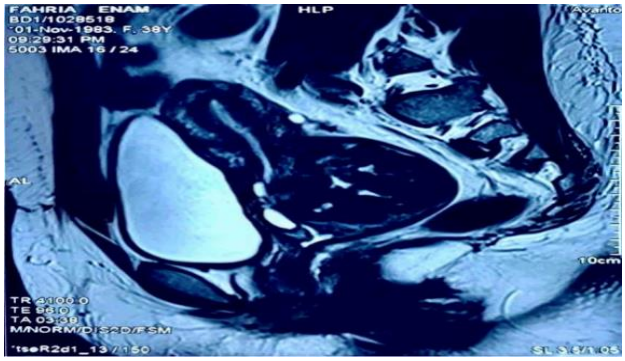

Figure 2: MRI of pelvis (sagittal view).

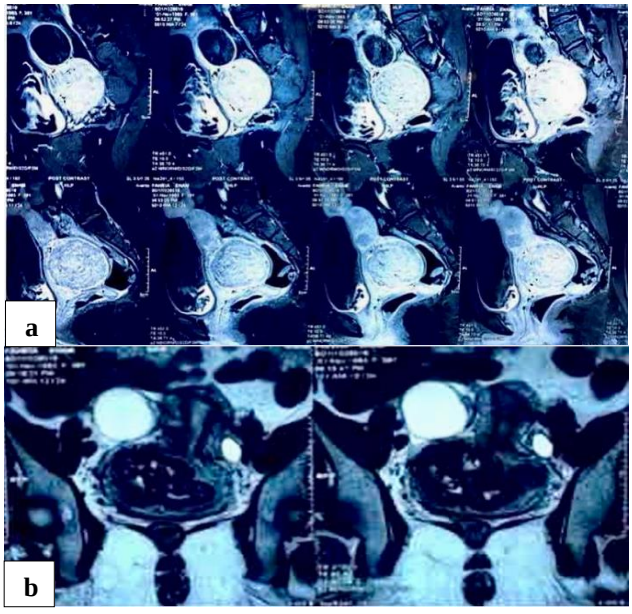

Figure 3: (a) MRI of pelvis axial view, and (b) MRI pelvis coronal view.

Both ovaries were buried. Adhesiolysis was done and tubo-ovarian relationship was restored. After proper hemostasis, the abdomen was closed in layers after keeping a drain tube in situ. A vaginal pack was also given for 24 hours.

She was transfused two units of fresh whole blood per-operatively and one unit post-operatively. Her postoperative period was uneventful. She was discharged on the 10th post-operative day with proper post-operative advice. The histopathology report revealed a fibroid with an area of degeneration.

Her whole post-operative period was uneventful, the anatomy of the cervix was restored and detected by TVS, and trial transfer was done before embryo transfer with easy negotiation to the cervix. Finally, she conceived 1 year after myomectomy with easy frozen embryo transfer in Canada. Till now her pregnancy (17 weeks) is continuing uneventful (Figure 4).

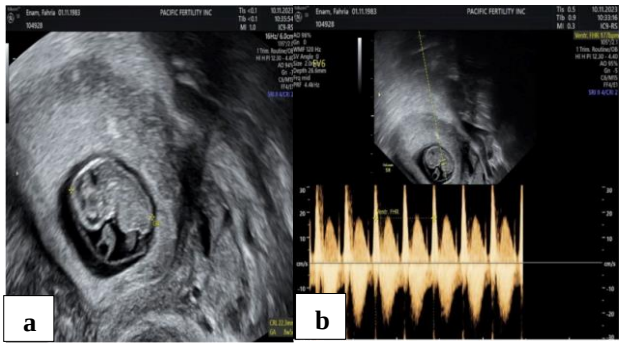

Figure 4: (a) and (b) Transvaginal ultrasonography of early viable pregnancy.

DISCUSSION

The cervical fibroids are rare and large cervical fibroids are rarer. Ferrari et al in their systematic review of cervical fibroids including 214 cases, found that the most common presenting complaint was abnormal uterine bleeding (AUB) (44%), followed by bulk-related symptoms (20%), chronic pelvic or back pain (14.6%), dysmenorrhoea (11%) and chronic urinary complaints (11%). Infertility was observed in 4.6% of cases and 7.7% of cases were asymptomatic.[9] Our patient presented with primary infertility and dysmenorrhoea.

The diagnosis of cervical fibroid is usually made with ultrasonography, MRI alone, or integrating ultrasonography with MRI. Ferrari et al reported only one case of missed diagnosis out of 89 cases of cervical fibroid when using ultrasonography as an imaging modality.[9] The diagnosis in our case was made by integrating ultrasonography with MRI.

Surgery either myomectomy or hysterectomy according to the patient's age and childbearing remains the cornerstone in the treatment of cervical leiomyomas.[9] Considering her age and desire for future fertility, with a history of failed embryo transfer during IVF myomectomy was done in our patient.

A proper preoperative workup, knowledge of anatomy, and careful dissection of the bladder and ureters are required as most of the time anatomy is distorted. Surgery can present difficulties, because of its position with the bladder anteriorly, rectum posteriorly, and bilateral ureters lying lateral to the cervix. In view of these facts, an experienced surgeon should perform surgery. Myomectomy can be performed via laparotomy, laparoscopy, robotic-assisted laparoscopy, or vaginally.[9] Considering the size, location, and its impactedness in the pouch of Douglas we performed myomectomy through a combined approach with transvaginal and abdominal route for this challenging large cervical fibroid.

In addition, to the size of the fibroid which can lead to alteration in the position of pelvic structures, there is always a risk of intraoperative haemorrhage. Prevention of bleeding can be done using diluted vasopressin, bilateral uterine artery ligation, temporarily blocking uterine Artery flow with vessel clips and the use of an Internal Iliac artery balloon occlusion catheter.[9] There is some evidence regarding the use of interventional radiology techniques, including uterine artery embolization (UAE), uterine fibroid embolization (UFE), and super selective cervicovaginal artery embolization.[10] In our study we use only diluted vasopressin to minimize excessive haemorrhage.

Ureteric injury remains a dreaded complication.[6,7] Intraoperative meticulous dissection and identification of the ureter are recommended in high-risk cases. A pre-operative cystoscopy guided stenting of ureters can be helpful to identify ureters by palpation during laparotomy or visualization during laparoscopy if using lighted/flashing stents.[11] In this case we have done preoperative IVU to see the course of the ureter.

Different studies found post-myomectomy conception rates between 40 to 75%.[12-14] Being a rare condition, there is a lack of data regarding the pregnancy rate following myomectomy of such large cervical fibroids. However, our patient conceived 1 year after myomectomy with easy frozen embryo transfer and her pregnancy (17 weeks now) is continuing successfully to date.

CONCLUSION

Myomectomy in expert hand even for the large cervical fibroid can restore normal anatomy and can achieve a successful pregnancy outcome.

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Ethical approval: Not required

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