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Case Report

Hysterectomy with trans-cervical resection of a prolapsed submucosal fibroid: a challenging surgical approach

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ABSTRACT

Uterine fibroids or leiomyomas, are the common benign tumors of female reproductive tract that affects women of almost all age groups, leading to various gynecological problems such as heavy menstrual bleeding, dysmenorrhea, subfertility, and anemia. The increasing prevalence of these fibroids, due to prolonged estrogen exposure, influenced by lifestyle factors such as obesity, alcoholism, nulliparity and medical conditions like hypertension, have made necessitate their timely management to reduce significant morbidity. Surgical interventions, particularly hysterectomy, are considered definitive for women of perimenopausal and postmenopausal age group with symptomatic fibroids, though challenging due to the altered uterine anatomy. Here we present a case of a 46-year-old woman, P2L2, who reported with a history of heavy menstrual bleeding, dysmenorrhea, and intermenstrual bleeding, along with anemia (Hb 8.4 g/dL). Ultrasonography revealed a bulky uterus with multiple intramural fibroids and a prolapsed submucosal fibroid protruding through the cervical OS which bled on touch. She underwent a successful abdominal hysterectomy, with a unique surgical approach to manage the prolapsed submucosal fibroid. A vertical incision on the anterior cervix facilitated the clamping and removal of the pedunculated fibroid through the vagina, followed by its removal with minimal blood loss. This case highlights the importance of accurate preoperative imaging and surgical planning and use of surgical strategies such like this to improve operative outcomes and reduce morbidity, especially in anemic patients.

Keywords: Sub-mucosal fibroid, Nascent myoma, Trans-cervical resection, Pedunculated fibroid

INTRODUCTION

Uterine fibroids are a common condition that gynecologists encounter in daily practice. The approach to management depends on the specific concerns or symptoms with which the patients present. Uterine fibroids, or leiomyomas, are benign tumors of smooth muscles of the myometrium composed of myocytes and excessive deposition of extra-cellular matrix.[1] With evolving lifestyle factors such as obesity, smoking, alcohol consumption; medical conditions such as diabetes, hypertension, and liver disorders have become more prevalent, and the incidence of fibroids is also increasing. According to age-period-cohort analysis of the global disease burden, the incidence of uterine fibroids increases with age, peaking between 35 and 44 years, and then declining in older age groups. Globally, the incident cases, prevalent cases, and the number of YLD (years lived with disability) of uterine fibroids increased from 1990 to 2019 with the growth of 67.07%, 78.82% and 77.34%, respectively.[2] Uterine fibroids are categorized according to the FIGO system of classification as submucosal (0, 1, 2), intramural (3, 4), sub-serous (5, 6, 7), cervical, parasitic, broad ligament (8), hybrid (2-5). Each of these have their own unique presentation. FOGSI reports that in a cross-sectional survey, 74.9% of women with uterine fibroids experienced spotting and/or bleeding between periods, while 73.4% reported heavy menstrual bleeding.[3] This adds to anemia and further increases morbidity. There are

various treatment modalities available for managing the condition, depending on factors like age, fertility desires, and clinical presentation. However, surgical management is considered the definitive approach. Complete enucleation of these tumors can be challenging due to changes in the uterine anatomy. We present a case of a 46-year-old woman with a bulky uterus, multiple large intramural fibroids, and a prolapsed submucosal fibroid, where unique surgical techniques were employed to facilitate an easier hysterectomy, significantly reducing the operative challenges.

CASE REPORT

A 46-year-old woman, P2L2, presented to our outpatient clinic with complaints of heavy menstrual bleeding, dysmenorrhea, and generalized weakness for the past ten days. She reported a history of irregular menstrual cycles, occurring every 20-25 days, with bleeding lasting 8-10 days per cycle. She was using 8-10 sanitary pads per day with passage of clots. Additionally, she described experiencing severe abdominal discomfort that started three days prior to her periods and worsened throughout the cycle, which significantly impacted her daily activities. She also gave history of intermenstrual bleeding over the past five months.

She had undergone two lower segment cesarean sections previously along with concurrent sterilization. She did not have any other significant medical comorbidities or familial history of any malignancy.

On admission, she had a BP of 90/60mm Hg and a pulse of 60 bpm. She appeared pale and was of moderate build. Abdominal examination revealed an irregularly enlarged mass of around 20-week gravid uterine size, arising from pelvis; with irregular borders, hard consistency and restricted mobility. Speculum examination revealed a hard pedunculated mass of 6×6 cm with irregular surface, protruding through the cervical OS, that bleed upon touch. Vaginal packing was done. Blood investigations revealed her hemoglobin to be 8.4 g/dl. She was treated with tranexamic acid, antibiotics and received one pint blood transfusion.

Ultrasonography was done which revealed the following findings: Bulky uterus of size 15.9×10.8 cm with, an intramural fibroid extending from fundus to the right lateral wall measuring 7.7×7.8 cm, an intramural fibroid extending from fundus to the Left lateral wall measuring 7.2×7.8 cm, a lobulated hypoechoic lesion of 8.5×4.1 cm with significant vascularity in the region of cervix. Open cervical canal with the lesion protruding through the OS; with a broad vascular pedicle arising from the lower uterine segment.

After completing cardiac evaluation and obtaining informed consent, she was planned for abdominal hysterectomy.

Operative procedure

Under spinal anesthesia, abdomen opened in layers till peritoneum by Pfannenstiel incision. Bladder adhesions were identified and carefully separated using sharp dissection. The uterus was then delivered using a myoma screw, and altered uterine anatomy was noted. After careful skeletonization of the bilateral ureters, the hysterectomy was performed in a bloodless field, up to the level of the Mckenrodt ligaments. The cervix was found to be distended due to a submucosal fibroid polyp, which complicated the placement of the final clamps. To address this, a vertical incision was made on the anterior cervix, allowing visualization of the fibroid's pedicle, which was then clamped and cut. The fibroid was then removed in its entirety through the vagina. Following this, the hysterectomy was completed smoothly. The uterus, along with the submucosal fibroid, weighed 1.5 kg.

Operative findings

The operative findings are-uterus enlarged to 24 weeks gravid uterus size, right lateral wall FIGO 4 fibroids of 8×8 cm, left lateral wall FIGO 4 fibroid 6×6 cm, FIGO 0 fibroid of 6×4 cm arising from posterior lower uterine wall protruding through the cervical OS into the vagina.

Bilateral tubes and ovaries were normal.

The post-operative period was uneventful, and the patient was discharged after four days. Her HPE reports confirmed the mass as leiomyoma.

Figure 1: Uterus with cervix (17×15×9 cm), leiomyoma with pedicle cut (8×6×4 cm).

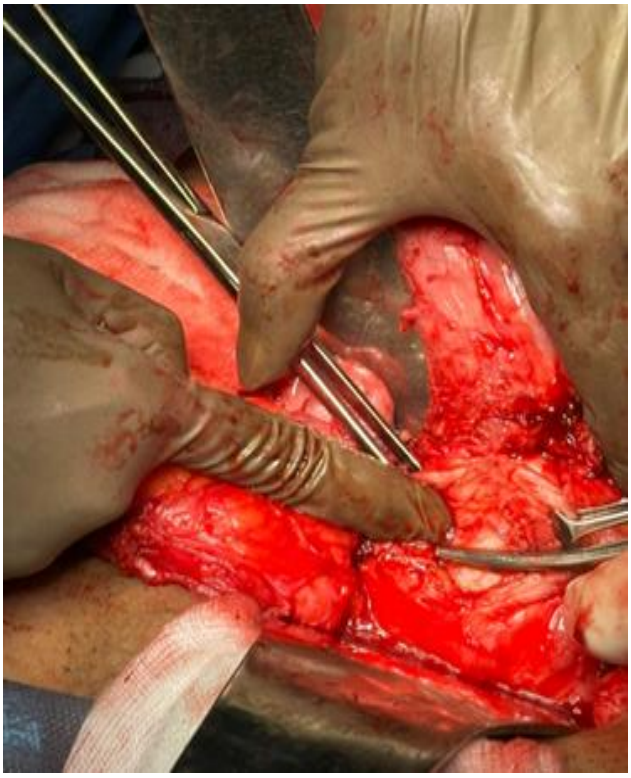

Figure 2: Pedicle of prolapsed submucosal fibroid clamped and cut by making vertical incision on anterior wall of cervix.

DISCUSSION

According to national family health survey 5, uterine fibroids constitute 11.1% of all the total hysterectomies in India.[4] This is because of the complications that affect the quality of life. There are various risk factors predisposing their development like early menarche, late menopause, nulliparity, obesity, associated medical disorders like hypertension, liver disorders, genetic factors like MED 12 exon mutations, microRNA 21 overexpression.[5] All of them leading to unopposed estrogen exposure. Here in this case, the patient had history of amenorrhea for several months during her early reproductive age which she had neglected.

With a mass bleeding on touch protruding through the cervical OS, the differential diagnosis were a endometrial or cervical polyp and a fibroid polyp with necrosis or degenerative changes. When endometrial lesions like polyps and submucosal fibroids are suspected, B-mode sonography studies have indicated that a hyperechoic polypoid lesion within the uterine cavity is typically indicative of an endometrial polyp. And Doppler sonography commonly reveals multiple blood vessels in fibroids likely originating from the inner myometrium, while most polyps tend to have a single feeding artery.[6] With the same principle, the lesion in this case was diagnosed as a submucosal fibroid (FIGO 0). Also, the base of the pedicle could be traced to the lower uterine segment thus ruling out cervical polyp.

The treatment modality depends on factors such as age, fibroid size, the patient's symptoms, and her desire for fertility. For women in this age group with multiple large fibroids, surgical options like myomectomy or hysterectomy are preferred. Given that the patient was anemic and experiencing ongoing bleeding, and since her family was complete, she was scheduled for a hysterectomy. Wallace et al conducted a study comparing the effectiveness of hysterectomy versus myomectomy on one-year health-related quality of life in women with uterine fibroids. They found that at the one-year follow-up, both groups showed improvements in overall UFS-QOL (Uterine fibroid symptom and quality of life) scores. However, women who underwent hysterectomy experienced more significant improvements in both summary scores and symptom severity compared to those who had myomectomy, as hysterectomy eliminated the possibility of fibroid recurrence.[7]

Due to the size and location of the fibroids, an open abdominal approach was chosen to provide better visualization and to clearly define the distorted anatomy. Although the prolapsed broad-based pedunculated submucous myoma, also referred to as a nascent myoma, is easily accessible vaginally, attempting to remove it could result in significant bleeding and increase the risk of uterine inversion.

Ahmed et al suggested that for large pedunculated submucous myomas where vaginal hysterectomy cannot be performed, transcervical resection or clamping of the pedicle can be done prior to surgery to reduce tumor size.[8] A similar approach was used in this case to facilitate the placement of clamps at level of uterosacral ligaments. The pedicle of the prolapsed fibroid was clamped, cut and removed vaginally and the hysterectomy was successfully completed with minimal blood loss. This had a successful impact in early postoperative recovery of this anemic patient.

CONCLUSION

Given the rising incidence of fibroids and their diverse presentations, it is crucial for gynecologists to tailor the treatment plan for each patient, carefully map the fibroids before surgery, and implement appropriate surgical strategies to address challeging resections.

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