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Case Report

Management of Pregnancy with a Large Panmural Myoma and Interval Laparascopic Myomectomy - A Case Report and Review of Literature

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Abstract

Uterine Fibroids are the most common pelvic tumours in females and most common uterine tumours in females of the reproductive age group [1]. Its incidence in pregnancy is approximately 1.5 to 2% [2]. Pregnancy with myoma can have a wide range of presentations. It may be asymptomatic or present with antenatal complications like pain, degeneration of fibroid, torsion or impaction of pedunculated fibroid, preterm labour, malpresentations, increased rates of caesarean section or postpartum haemorrrhage after delivery [2]. We hereby, discuss a case of huge uterine fibroid around 10.9 x 8.9 cm which was found incidentally during the First Antenatal Scan in first trimester of pregnancy. Patient was kept under close monitoring during pregnancy and finally delivered at 31 weeks by lower segment caesarean section. Decision for Myomectomy was deferred because of the huge size of the myoma and its pan mural nature and possibility of severe haemorrhage during myomectomy as she had already bled severely during lower segment caesarean section. Since the patient was a primi gravida and was desirous of further conceptions, and possibility of conversion to hysterectomy –the procedure was deferred. She had anaemia in Antenatal period and postpartum haemorrhage after delivery which were managed conservatively. Ultimately laparoscopic myomectomy was done at 7 months postpartum for a degenerated large panmural fibroid.

Keywords: *Large Myoma in Pregnancy; Panmural Fibroid; Antenatal Management; Infarcted Myoma; Laparoscopic Myomectomy*

Introduction

Uterine Fibroids are the most common benign pelvic tumours in females of the reproductive age group. They are non-cancerous and monoclonal in origin arising from smooth muscles and fibroblast of the myometrium. No clarity is there about the etiology of fibroids although various theories have been proposed for its origin. It is multifactorial in origin and has genetic predisposition. Steroid hormones and environmental factors are also seen to effect it. Diagnosis is challenging in the antenatal period as ultrasound's ability to detect fibroid is low in pregnancy due to decreased efficiency to differentiate between fibroids and normal thickening of the myometrium [2].

60 to 70% fibroids in antenatal women show no change in volume.22 to 32% fibroids show increase in volume specially in first trimester with minimal change in second and third trimester. Usually, fibroids < 5 cm remain stable and those > 5 cm tend to grow [3]. Fibroids are mostly asymptomatic in antenatal period. Some patients present with acute abdominal pain due to red degeneration. Other compli-

cations of fibroids presenting with pain abdomen in antenatal patients with large fibroids are torsion and impaction mostly in cases of pedunculated fibroids [2].

Typically leiomyomas are circumscribed and white showing a whorled appearance on cut section. Variations in the pattern are due to replacement of the muscle fibres by various substances like hyaline, collagen, blood, calcium, mucopolysaccharide or combination of these constituents [6]. When fibroids grow to a very large size, they tend to undergo degeneration as their oxygen supply, blood supply and nutrition are compromised due to demand supply mismatch. In such cases they may clinically present with pain abdomen due to degeneration or infarction. Pain is mostly because of release of large amounts of prostaglandins and kinking of blood vessels resulting in tissue hypoxia, ischaemia and necrosis [2]. Of all the types of degeneration, hyaline is the most common degeneration amounting to 60% of all degenerations [5]. Cystic degeneration is another type of degeneration that occurs as a result of liquefaction of hyaline [6]. Red or carneous degeneration is a type of degeneration where on gross e x amination the fibroid appears red. It happens mostly in antenatal patients as a result of haemorrhagic infarction due to obstruction of the draining veins [5] or rupture of intratumoral arteries. Red degeneration in leiomyoma complicates around 8% of tumours during pregnancy though prevalence is only 3% of all uterine leiomyomas. Red Degeneration occurs in fibroids more than 5 cm in size in late second and early third trimester of pregnancy [2]. Another type of degeneration is myxoid and mucinous degeneration which is characterised by increase in mucopolysaccharide content in stroma and which needs to be differentiated from myxoid leiomyosarcoma [6]. Calcification can also occur in fibroids usually following necrosis.

We hereby present a case of a patient, accidently diagnosed to have a large fibroid in the first antenatal scan which was conservatively managed during the antenatal period and laparoscopic myomectomy was done 7 months after her delivery. The histopathological examination showed findings suggestive of an infarcted myoma.

Case Report

A 32yrs old G1P0L0A0 female presented in Outpatient Department for routine first trimester Antenatal checkup at 6weeks 3 days period of gestation. Ultrasound for early pregnancy profile was advised and a 8.9 x 6.5 cm uterine fibroid was found incidentally during the First Antenatal scan at 6weeks 3days period of gestation (1/6/2020). Patient was put on progesterone support in view of high risk of threatened abortion. Her haemoglobin was 9.1gm/dL.

- A Transvaginal ultrasound scan done on 5/6/2020 showed a Pan mural fibroid 8.4 x 9.9 x 9.9 cm with a single live fetus 6weeks 1 days with cardiac activity 117/min, and Gestational Sac displaced to the left.
- Patient was kept on follow up and a Transvaginal ultrasound scan done on 26/6/2020 at 10weeks 3 days period of gestation showed the fetus to be 9weeks4days and the fibroid around 10.9 x 8.9 cm arising from fundus on the right side.
- Patient had episodes of lower abdominal pain which was attributed to constipation and settled with conservative management.
- Level 1 ultrasound scan was done on 16/7/20. Period of gestation was 13weeks 2 days by last menstrual period.
- Ultrasound showed single intrauterine fetus 12weeks 4 days. Cardiac activity 166bpm.Nuchal translucency measures 1.3mm. Nasal bone well visualized. Ductus Venosus-normal flow pattern. A large 11.0 x 9.6 cm fibroid seen arising from fundus. cervical length was normal -3.6 cm. Her Dual test was within normal limits.
- Her Level II ultrasound Scan was done at 20weeks of gestation and was within normal limits.
- Ultrasound whole abdomen done on 24/7/2020 showed no abnormality in upper abdomen. This was done in view of repeated episodes of pain.

- Her haemoglobin done on 24/7/2020 showed haemoglobin 7.90gm/dl. She was started on high dose oral iron, folic acid, B complex with high protein diet.
- She received injectable iron as haemoglobin was not responding to oral therapy.
- She was admitted for preterm labour pain on 14/11/2020 and was given antenatal steroid for fetal lung maturation and Magnesium sulfate for neuroprotection.
- Antenatal ultrasound (2/11/2020) showed a large fibroid with central cystic degeneration in the right fundolateral myometrium 11.4 x 9.2 cm in size.
- Elective lower segment caesarean section was done on 17/11/2020.There was excessive bleeding from lower segment incision due to large, dilated sinuses.
- Post lower segment caesarean section she developed post-partum haemorrhage. Was managed conservatively.
- Patient kept on follow up and came back for laparoscopic myomectomy in July 2021.
- MRI Pelvis done for fibroid mapping on 9/7/21 which showed a myoma of 7.4 x 7 x 6.8 cm in size with central degeneration (Figure 1).
- Laparoscopic myomectomy done on 26/7/21 for a 7.4 x 7 x 6.8 cm degenerated myoma.

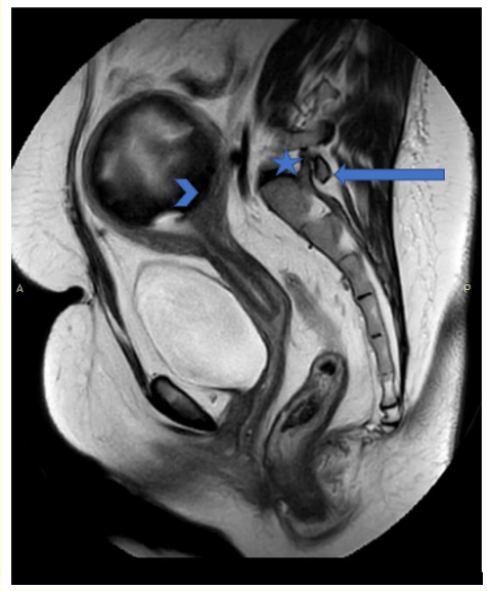

Figure 1: *Sagittal T2 weighted image showing a well circumscribed predominantly T2 hypointense mass in the uterine fundus(arrow) with areas of T2 hyperintense signal (asterisk) consistent with an intramural fibroid (Figo Type 4) with cystic degeneration. Note the bulge of the anterior abdominal wall due to mass effect by the fibroid (arrowhead).*

During the procedure, since the myoma was large in size (corresponding to 16weeks of gestation), laparoscopic entry was made through the palmer's point. A thick band of omental adhesion around 5 to 6 cm was noted with the anterior abdominal wall in the left lower quadrant for which adhesiolysis was done with ligasure (Figure 2). Vasopression was injected into the wall of the uterine musculature around the myoma. Myomectomy was initiated by giving a transverse incision over the most prominent part of the fibroid at the fundus away from the two tubes (Figure 3). Plane of cleavage was difficult to get due to the degenerated nature of myoma.

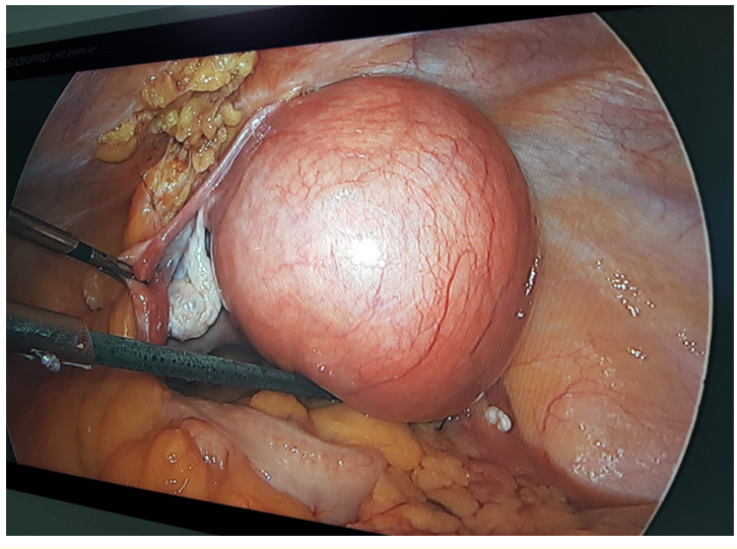

Figure 2: *Panoramic view of the uterus with large fibroid as seen on laparoscopy. Bilateral fallopian tubes and ovaries are normal.*

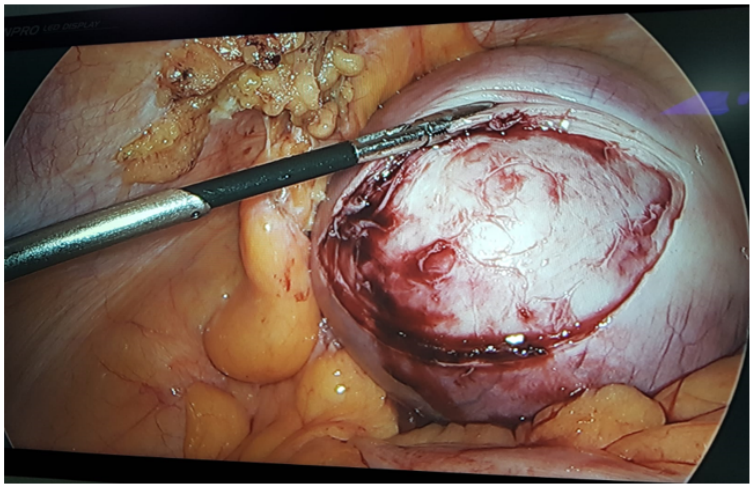

Figure 3: *Myoma capsule being incised laparoscopically after injecting vasopressin.*

Plane of cleavage was developed all around the myoma by dissection with the help of laparoscopic myoma screw (for traction), suction canula and laparoscopic scissors.

Myoma was enucleated without opening the endometrial cavity inspite of prominent submucosal component. Uterine defect was closed with v-loc suture in 3 layers. (Figure 4) The myoma was retrieved by mini-lap technique.

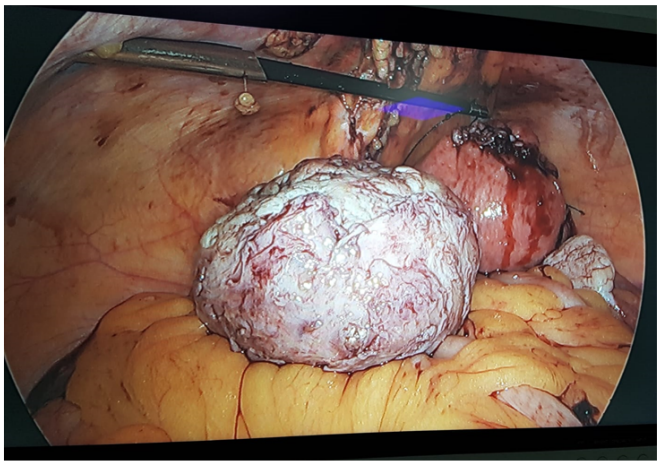

Figure 4: *Post myomectomy view showing the large myoma. Uterus can be seen in the background after triple layer closure of incision.*

Post poperative period was uneventfull.

Histopathology report showed an infarcted myoma (Figure 5,6)

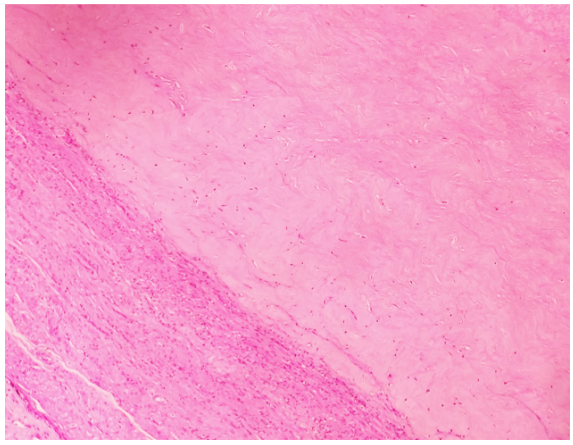

Figure 5: *Junction of normal myometrium with infarcted leiomyoma 40x.*

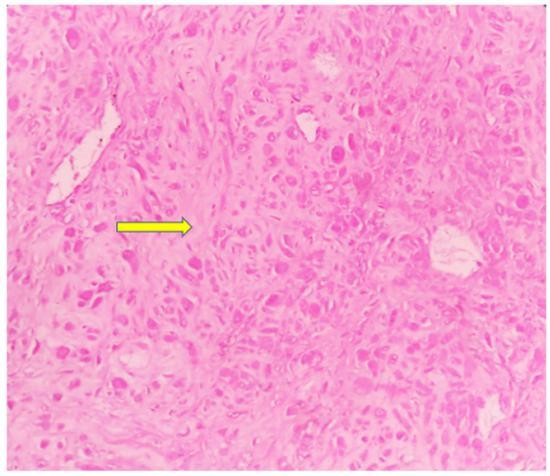

Figure 6: *Infarct like necrosis in leiomyoma with ghost spindle smooth muscle cells showing dense eosinophilic cytoplasm 400x.*

Discussion

Due to various socio-cultural factors, there is delay in childbearing, hence incidence of fibroids is increasing globally.

Pregnancy may cause uterine fibroids to undergo degeneration, torsion or impaction whereas fibroids can complicate a pregnancy leading to abdominal pain, miscarriages, malposition/malpresentation, intrauterine growth restriction, antepartum haemorrhage, preterm labour, obstructed labour, postpartum haemorrhage, and high caesarean section rates [4].

The fibroids in pregnancy are usually conservatively managed as there is much increased uterine vascularization during pregnancy [4]. Therefore, myomectomy during caesarean may result in excessive blood loss which may lead to inevitable hysterectomy, maternal mortality or compromised obstetric outcome mostly for primigravida patients looking at having more pregnancies in future. Thus if at all performed, should be reserved for subserous or pedunculated fibroids [4,7-9].

Our indexpatient was asymptomatic before pregnancy and the uterine fibroid, which was pan mural in nature, was diagnosed accidentally during the first antenatal scan. She had responded well to conservative management. We decided to give comprehensive counselling to the patient explaining the risks of pregnancy with a huge fibroid and the risks of caesarean myomectomy leading to excessive blood loss, chances of caesarean hysterectomy and increased maternal mortality. Based upon the above considerations, caesarean section was done at 31 weeks. Our indexpatient being nulliparous was not inclined for any procedure which could lead to caesarean hysterectomy as she did not want to compromise her obstetric future. Hence due to excessive blood loss from dilated and tortuous vessels in the lower segment we decided to withhold caesarean myomectomy intraoperatively. Stay in hospital was uneventful. Thereafter, she had post-partum haemorrhage which was managed conservatively and patient recovered well due to good postpartum monitoring by which we could foresee and prevent complications.

Subsequently an interval laparoscopic myomectomy was performed at 7 months post-partum for a huge pan-mural leiomyoma with degenerative changes. Laparoscopic myomectomy was opted for as it is associated with less intra operative bleeding, shorter hospital stays, less post-operative pain, lower chances of post-operative adhesions. Interval myomectomy was done in a tertiary care hospital

setup with high level of expertise, where laparoscopic myomectomy is done as a routine procedure with a blood bank support so there were minimal chances of complications landing up into a hysterectomy. Laparoscopic myomectomy gives the advantage of excellent visualization and magnification with better planes for dissection and better haemostasis and better integrity of the myomectomy scar.

Patient recovered well in the post-operative period.

The histopathological examination report was suggestive of a large myoma with infarction.

We decided to document our experience in our clinical setting where many patients may present with large and/or asymptomatic uterine fibroids in pregnancy. This goes to show that caesarean followed by interval myomectomy could be performed with good results and minimal complications

Conclusion

- Most of the uterine fibroids that are detected in pregnancy need conservative management only.
- Keeping in mind the adverse complications of a pregnancy with a huge fibroid like pain abdomen, threatened abortion, preterm labour and anaemia, close antenatal monitoring is advised.
- Proper Patient counselling regarding prematurity and its consequences is of utmost importance.
- Intrapartum decision for deferring myomectomy in a large myoma should be taken for patients looking for future obstetric outcome considering the high possibility of caesarean hysterectomy in cases of massive intrapartum haemorrhage.
- Interval laparoscopic myomectomy for large myomas in a tertiary care setting with good equipment's available and an expert laparoscopic surgeon with a good laparoscopic team, will minimise the chances of complications during surgery. With better magnification, good dissection planes and meticulous defect closure, a good outcome can be achieved in the next pregnancy.
- Chances of conversion to a hysterectomy during laparoscopic myomectomy are negligible.

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Conflict of Interest

There is no conflict of interest.

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Authors Contributions

Dr Birbala Rai has a major contribution in antenatal management and operative management (Lower Segment Caesarean Section and Laparoscopic Myomectomy) of the case. She has conceptualised and planned the article. Writing, formatting, finding references and putting details together and editing the article. The order of authorship was decided according to above facts.

Dr Sneha Sharma has helped in writing. researching, referencing articles, typing and analysing data. She has also helped in editing the article.

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