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Case Report

Broad ligament fibroid in treated breast carcinoma patient

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ABSTRACT

Fibroids are the most common benign lesions of the uterus and genital tract and rarely can be extrauterine in origin. The broad ligament fibroids, even though having a low incidence, are the most common extrauterine fibroids. This is a case of 36 years old nulliparous woman treated for invasive carcinoma of breast with infertility, with broad ligament fibroid presenting with abdominal pain, reported for its rarity and operative experience.

Keywords: Breast cancer, Broad ligament leiomyoma, Extrauterine fibroid

INTRODUCTION

Uterine leiomyoma (fibroids) are benign smooth muscle tumors originating from the myometrium and are the most common solid pelvic tumors and most frequently reported indication for surgery in women.¹ Symptomatic fibroids occur mostly between the ages of 30 and 40 years, and prevalence increases with age.¹⁻³ Broad ligament leiomyomas account for <1% all leiomyomas.³ A false broad ligament leiomyoma develops laterally from the lateral surface of the uterus while true broad ligament leiomyoma is conventionally believed to develop from mesenchymal remnants of the broad ligament, or smooth muscle in the media of blood vessels in the broad ligament.³ Although the initial steps in the pathogenesis of uterine fibroids are most likely due to chromosomal aberrations and/or specific gene mutations, their development is highly dependent on ovarian steroid hormones.¹ Ovarian steroid hormones are also essential for the development of the breast and actively promote cell proliferation. There is a wealth of evidence to support the critical role estrogen plays in pathogenesis of breast cancer.¹ Patients with uterine leiomyoma may have an increased risk of developing breast cancer because the uterine leiomyoma and breast cancer share some of the risk factors such as obesity and estrogen exposure.² This is a case report of a nulliparous woman with history of invasive

breast cancer, presenting with pressure symptoms secondary to leiomyoma in broad ligament.

CASE REPORT

The 36 years old nulligravida married for 16 years came to gynaecology OPD with complaints of dull aching pain in abdomen for 8 days. Patient is treated case of infiltrating breast carcinoma for which lumpectomy in right breast followed by chemoradiation was done in 2017 and tablet tamoxifen taken for 1 year. Left breast was normal. Patient is a known case of primary infertility for which she has undergone 1 IVF cycle. On examination, patient is conscious oriented in time, place and person, with pulse 90/min and blood pressure 120/80 mmHg. On vaginal examination reveals normal uterine size 5×6 cm mobile mass in posterior and left lateral side of fornix, firm in consistency, attached to uterus. USG pelvis revealed a normal size uterus, endometrial thickness 0.6 mm, and evidence of mixed echogenic lesion 8.1×5.1 cm seen in posterior pelvis extending into left adnexa suggestive of broad ligament fibroid. MRI abdomen revealed 4.5×6.1×7.3 cm broad ligament fibroid arising from left lateral wall of lower uterus and upper cervix indenting urinary bladder.

Preop haemoglobin was 11.1 g/dl, TLC-5900, platelet count 2.7 lakh, liver and kidney function test within normal

range. PAP smear reported as normal. 2D echo done as patient was on tablet tamoxifen and reported normal.

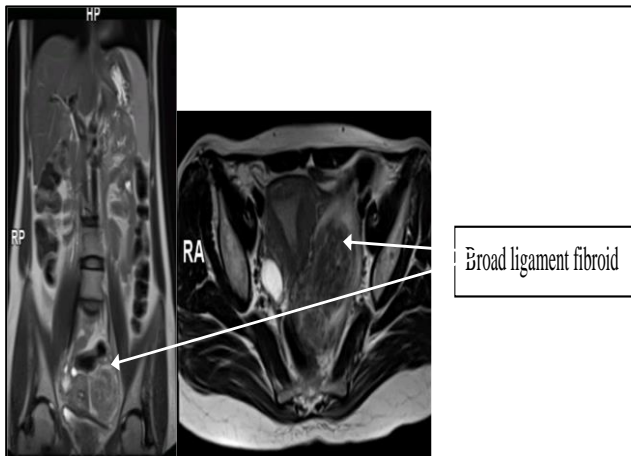


Figure 1: MRI images of fibroid.

Patient posted for myomectomy post-menstrually with availability of adequate blood products. Intraoperative finding revealed 8x8 cm fibroid in left broad ligament attached to uterine wall extending up to the level of cervix inferiorly and extending into the Pouch of Douglas posteriorly, bilateral adnexa normal and uterus normal for age. Left round ligament bisected and transfixed with vicryl no 1. Anterior leaf of broad ligament opened by sharp dissection to expose fibroid. Course of ureter identified and peristalsis noted. Injection vasopressin 20 units diluted in 100 ml normal saline injected into the pseudo capsule and on lateral wall of uterus. Incision made on pseudo capsule and dissected from fibroid by using bipolar cautery and sharp dissection. Doyen's Myoma screw inserted, traction- countertraction given and myoma enucleated. Hemostatic sutures taken at the base of myoma. Hemostasis achieved. Anterior and posterior leaves of broad ligament closed with vicryl no 2. Two ends of round ligament approximated. Abdomen closed in layer. Patient withstood procedure well. Approximate blood loss about 200 ml

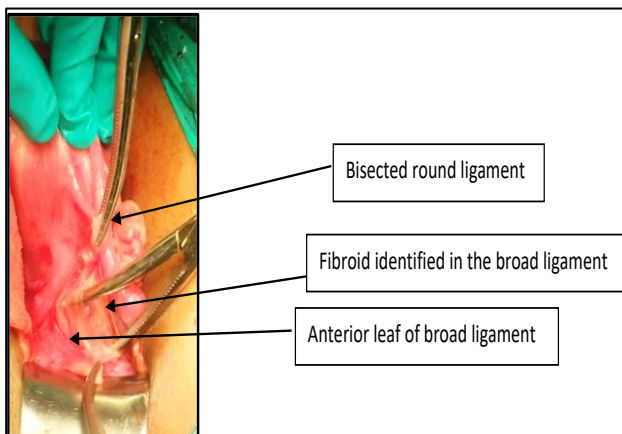


Figure 2: Bisection of round ligaments and, anterior leaf of broad ligament dissected to expose the myoma.

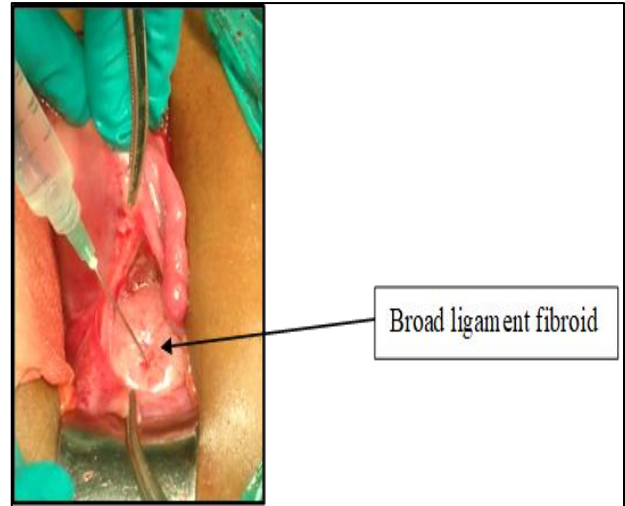


Figure 3: Injection vasopressin being injected into the fibroid to reduce blood loss.

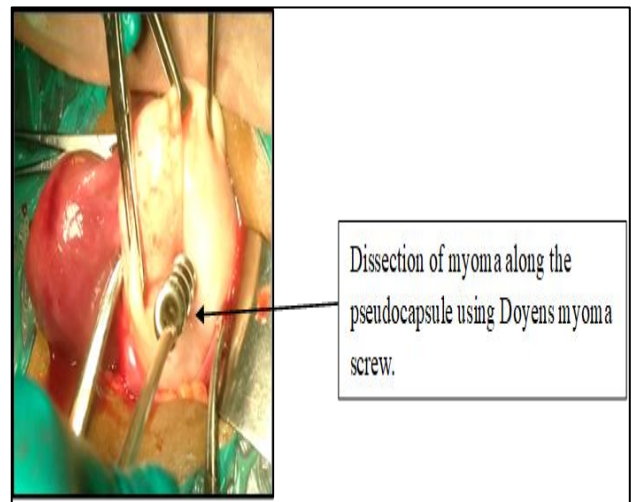


Figure 4: Dissection of myoma along the pseudo capsule using Doyen's Myoma screw.

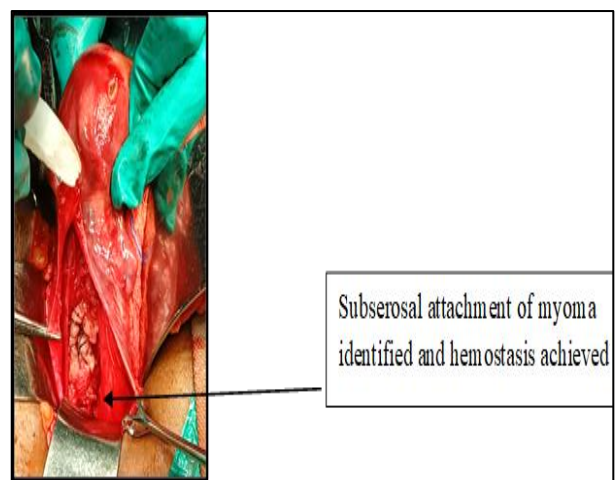


Figure 5: Site of attachment of the false broad ligament fibroid.



Figure 6: Closure of broad ligament and approximation of bisected round ligament. Placement of adhesion barrier at repair site.

DISCUSSION

Leiomyomas are benign tumors arising from the myometrium affecting up to 30% of all women in the reproductive age group. Extra-uterine leiomyomas are rare.⁴ Broad ligament leiomyomas are the most common tumors among the extra-uterine leiomyomas with their overall incidence is less than 1%.³ True and False Broad ligament leiomyomas are the two types, the main difference between the two being that a false one has a pedicle connecting it to the uterus, while a true type has no connection with the uterus.³ The broad ligament fibroid has increased vascularity and low growth resistance causing them to grow to enormous size causing predominant pressure symptoms like bowel bladder dysfunction.⁵ Identifying the broad ligament fibroid as true or false is important as the false broad ligament leiomyoma has a pseudo capsule and usually lies above the uterine vessels pushing the ureter below and lateral as it enlarges. This makes dissection of false broad ligament fibroid easy.³ The true broad ligament fibroid arises from the muscle fibers found in mesometrium in round ligament, ovario-uterine ligament and connective tissue around the uterine and ovarian vessels making the ureter lie medial to the mass. The true broad ligament fibroid is also rarely surrounded by pseudo capsule, making its dissection difficult.

A giant broad ligament fibroid often changes the position of the adjacent organs and vessels during its growth, and the huge volume of the fibroid causes poor exposure during the surgery as well. All these factors make the surgery more difficult and increase the risk of injury to vital organs.⁸

In the above discussed case, to avoid injury to the ureter, its distribution from the position of the left ureter

intersecting with common iliac artery was traced. The ureter was found in the lower left part of the broad ligament fibroid. To avoid injury, we first separated the left ureter from the broad ligament fibroid. After securing the ureter, dissection of fibroid was done along the pseudo capsule decreasing the blood loss and protecting surrounding vital organs.

UAE is an effective nonsurgical treatment of leiomyoma and reduces the size of fibroid by 30% to 45%. UAE is an excellent option for women who do not desire future fertility and have medical disorders that increase surgery risk.⁸

Estrogen is a major contributing factor in the growth of fibroid and estrogen sensitive breast carcinomas. Translated, this means that increases in estrogen production and decreases in estrogen elimination are potentially harmful for the body.⁷ Recent studies have found that the incidence of breast cancer is significantly higher in women with fibroids, than compared to those without. In the above discussed case, the patient is a known case of infertility increasing the net estrogen exposure to the patient causing her to be in increased risk for leiomyoma as well as breast cancer. The woman is also at a high risk for recurrence of breast cancer.

CONCLUSION

Both uterine fibroid and breast carcinoma are hormone responsive conditions with significant morbidity to the patient⁶. Women with increased estrogen exposure and leiomyoma should be aware of the potential risk of breast cancer development in their lifetime prompting early diagnosis and management. In women not desiring fertility and with predominant leiomyoma associated menstrual symptoms UAE should be considered, although the main indication for surgical myomectomy is to control symptoms that impede quality of life in women who desire future fertility. During surgery, we should be meticulous with hemostasis and avoid ureter and bladder injury and other complications.

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Ethical approval: Not required

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