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Leiomyoma or fibroids are the most common benign tumour of the female reproductive tract. Extrauterine or extraintestinal leiomyomas are very rare and they present diagnostic enigma as they are confused for malignant masses or desmoid tumours. Anterior abdominal wall is an uncommon site for primary leiomyoma without any previous history of uterine surgeries or concomitant presence of uterine leiomyomas.





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Anterior Abdominal Wall Leiomyoma Arising De Novo in a Perimenopausal Women – Diagnostic Enigma

Krishna S; Vivekananada M; Hegde KS; Shenoy R

Institution

Kasturba Medical College,
Manipal, Karnataka, India

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Abstract

Introduction: Leiomyoma or fibroids are the most common benign tumour of the female reproductive tract. Extruterine or extraintestinal leiomyomas are very rare and they present diagnostic enigma as they are confused for malignant masses or desmoid tumours. Anterior abdominal wall is an uncommon site for primary leiomyoma without any previous history of uterine surgeries or concomitant presence of uterine leiomyomas.

Case: A 46-year-old female patient presented with recurrent pain in the right lower abdomen since one year. She is perimenopausal and underwent laparoscopic appendectomy two years back. She has two living children and both were normal vaginal delivery. On evaluation she was having right sided lower abdomen swelling. She underwent diagnostic laparoscopy and excision, final histopathology of which was reported as leiomyoma.

Discussion: Abdominal wall leiomyoma are uncommon and can occur following seeding of tumour cells during previous uterine surgeries. Several theories were proposed to explain primary abdominal wall leiomyoma without any success. It has been postulated that primary abdominal wall leiomyoma arises from the smooth muscle of the vessels in the anterior abdominal wall due to certain mutations. Another theory postulates that uterine fibroids become attached to the pre-peritoneum or retroperitoneum, detach from the uterus and develop their own blood supply. These are known as parasitic leiomyomas.

Conclusion: To conclude, benign primary leiomyoma of the abdominal wall can occur and this novel entity should be considered in the diagnosis of the anterior abdominal wall mass or pain of long duration in any patient without any concomitant tumours elsewhere in the abdomen or any antecedent history of abdominal or pelvic surgery.

Key Words

Anterior Abdominal Wall; Perimenopausal Women; Leiomyoma; Diagnostic Laparoscopy; Pelvic Surgery

Corresponding Author:

Dr Muddada Vivekananada; E-mail: vivekananda70@gmail.com

Case Presentation

A 46-year-old multiparous of gravida 2 para 2 (G2P2), perimenopausal female presented with pain in the right lower abdomen since one year which is of dull aching type, on and off, non-progressive and non-radiating. She had a history of laparoscopic appendectomy two years ago. She is amenorrheic for last two months. She was not on steroids or hormone replacement therapy nor had history of gynaecologic interventions. There was no history of diabetes, seizures, mental retardation or behaviour problems and there were no abnormalities of skin pigmentation.

General physical examination was normal.

On per- abdominal examination tenderness in the

right iliac region. Scars of laparoscopic appendectomy were present and healed well. Rest of the abdominal findings were within normal limits. On per-speculum examination cervix was healthy and on per-vaginal examination uterus was normal in size, fornices were free and non-tender.

Her haematological and routine biochemistry investigations were within normal limits. USG abdomen and pelvis showed an enlarged hypoechoic rounded lymph node in the right iliac fossa. Trans-vaginal ultrasound was normal. She was further evaluated with contrast enhanced abdomen and pelvic scan which revealed bulky uterus showing heterogeneous enhancement with endometrial collection of around 2.6cm and a contiguous heterogeneous enhancement of the posterior wall

of uterus which might be an extension of the cervical lesion. It also showed a heterogeneously enhancing well-defined omental lesion measuring ~ 1.8 x 1.6 cms in the right iliac fossa. ? Metastatic nodule.

Patient was evaluated for cervical lesion and underwent D&C and Pap smear which were negative for malignancy. In view of persistent pain in the abdomen and to rule out metastasis in omental lesion she underwent diagnostic laparoscopy. Diagnostic laparoscopy revealed a 2x2 cm firm nodule noted on the anterior abdominal wall in preperitoneal plane in the right iliac region and rest of the abdomen is normal. Laparoscopic excision of the nodular lesion done and sent for HPE.

Microscopic examination revealed a well circumscribed tumour composed of interlacing whorls of smooth muscle bundles with elongated vesicular fusiform nucleus with mitotic figures <1/HPF. Features are suggestive of benign leiomyoma. Patient's post operative period was uneventful. She was doing well at three months follow up.

Discussion

There is paucity of findings of isolated abdominal wall fibroids in the literature without previous surgeries for myomectomies or presence of uterine fibroids. She has never been managed for infertility. There was no evidence of uterine fibroids in history or imaging and no past history of uterine surgery. This supports the thinking that leiomyomas can be found anywhere there are smooth muscles¹.

Abdominal wall leiomyoma can be primary or parasitic. Parasitic leiomyomas have been reported in the retro- or pre-peritoneum. It has been proposed that the uterine leiomyoma becomes adherent to these structures, develops its own blood supply from the surrounding structures and gradually over time it loses its attachment with the uterus, thus developing as a parasite in the new location².

Abdominal wall leiomyomas are a rare finding and are thought to follow seeding of tumour cells following surgical resection of uterine fibroid^{3,4}. This entity occurs more commonly after laparoscopic

uterine surgery than laparotomy⁴. However, the exact cause of the origin of primary leiomyoma from the anterior abdominal wall is not clear. It has been postulated that the transformation of the cells of the vessel wall in the anterior abdominal layer to leiomyoma occurs probably due to somatic mutations and interplay of hormonal and growth factors⁵. The diagnosis of primary leiomyoma of the anterior abdominal wall can be made only when there is no antecedent history of abdominal surgery, open or laparoscopic ever. The tumour should be carefully removed en bloc minimising spillage of tumour cells to prevent recurrences. Synthetic mesh can be used to cover large defects after tumour extrication⁵.

Conclusion

To conclude, benign primary leiomyoma of the abdominal wall can occur and this novel entity should be considered in the diagnosis of the anterior abdominal wall mass or pain of long duration in any patient without any concomitant tumours elsewhere in the abdomen or any antecedent history of abdominal or pelvic surgery. Diagnostic laparoscopy is the ideal investigation whenever other investigations are inconclusive.

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