Case Report

Round ligament varices mimicking inguinal hernia during pregnancy

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ABSTRACT

Varicosities of the round ligament is a rare condition. Our gravid patient had left inguinal swelling noticeable for 2 weeks and pain on and off. Swelling was reducible and treating surgeon referred patient for ultrasound to rule out inguinal hernia. Round ligament varices present as a unilateral or bilateral inguinal mass with or without pain almost always in pregnant patient. Sonography and Doppler is the best modality to see tortuous venous channels of round ligament compared to bowel or omental contents suggesting of hernia. Differentiating round ligament varices from inguinal hernia is must before any unnecessary surgical intervention and should be kept as differential for unilateral or bilateral inguinal swelling during pregnancy.

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INTRODUCTION

Round ligament varicosities are not well-known entity and they are mostly caused by pregnancy [1]. Patients generally present with pain and swelling in inguinal region. When the swelling is painful the clinical suspicion of a strangulated inguinal hernia is high. This diagnostic dilemma raises the question of surgical management and the risk it poses to the pregnancy. Gray-scale and color Doppler ultrasound can precisely diagnose round ligament varices (RLV) and help distinguish it from other conditions.

CASE REPORT

A 28-year-old second gravida at 30 weeks of gestation with swelling and mild pain in left inguinal region which got noticed at 28th week of gestation presented in outpatient department of surgery in our hospital. On physical examination painful, nonreducible soft mass in her left inguinal region approximately 4 cm × 2 cm in size was found. Swelling was increased in standing position and on valsalva. No redness in skin and temperature at surface was within normal limits.

Abbreviation: USG, ultrasonography; RLV, round ligament varices.
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Right inguinal examination was normal. She had no relevant medical history and previous pregnancy was uneventful. Provisional diagnosis of inguinal hernia was made and for that she was referred to radiology department.

Ultrasound and color Doppler was done with MINDRAY DC-8 machine with 12 Hz probe in which gray-scale sonography showed an asymmetric left inguinal anechoic mass composed of multiple serpentine tubular channels (Fig. 1). Color Doppler imaging showed a hyper vascular structure with a venous flow pattern (Fig. 2) which became more prominent and showed reflux when the patient performed valsalva maneuver (Fig. 3). There were no intraluminal echogenic findings to suggest thrombus formation; there were no soft tissue components, no bowel loops, or lymphadenopathy. A diagnosis of round ligament varices was made and patient was managed conservatively.

Discussion

The round ligament passes from the lateral uterus, through the deep inguinal ring, and along the inguinal canal and terminates at the labia majora. The round ligament contains arteries, veins, lymphatics, and nerves. RLVs arise from the veins draining the round ligament and the inguinal canal into the inferior epigastric vein [2].

During pregnancy increase in blood volume and venous return, and the increased level of progesterone causes venous dilation along with muscle relaxation. An additional cause of RLV in pregnancy is the increased pressure on the pelvic veins caused by the gravid uterus. These reasons make RLV an almost exclusive diagnosis in pregnant women [3].

RLV can be easily misdiagnosed as an inguinal hernia, however hernia of the inguinal region appearing for the first time during pregnancy is uncommon because most of the intra-abdominal structures that could potentially fill the hernia sac will be pushed aside by the growing uterus [1]. Other considerations are hydrocele of the canal of Nuck, extra genital endometriosis, subcutaneous lipoma, lymphadenopathy, vascular aneurysm, soft tissue malignancies, and abscess formation, however closest differential is inguinal hernia [4].

RLVs are more common than inguinal hernias and for the diagnosis of RLV, sonographic examination is necessary and sufficient. On ultrasonography, the typical findings of RLV on gray-scale sonography are the “bag of worm” appearance of the subcutaneous tissue which is formed by the multiple dilated veins and its extension through the inguinal canal. On color Doppler imaging, the existence of venous flow and its augmentation by Valsalva manoeuvre confirm the diagnosis [3].
Conclusion

Obstetricians, surgeons, and radiologists should remember RLV as a part of the differential diagnoses and perform Doppler sonography when a pregnant patient presents with an inguinal swelling. To avoid unnecessary surgery, varicosities and inguinal hernias should be distinguished during pregnancy.

Supplementary material

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.radcr.2019.05.028.

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