PICTORIAL MEDICINE

Round ligament varicosities: a rare cause of groin swelling in pregnancy

A 30-year-old woman, para 1+0, complained of a left groin swelling for 4 weeks at her 24th week of gestation. She enjoyed good health and her previous pregnancy was uneventful. The groin swelling was noted to get smaller when she lay down. When she resumed the standing posture, the swelling would get bigger and there was a feeling of "something coming out". She reported no groin pain or abdominal discomfort. The groin swelling gradually increased in size, whereupon this problem was disclosed to her obstetrician and an ultrasound examination of left groin was arranged.

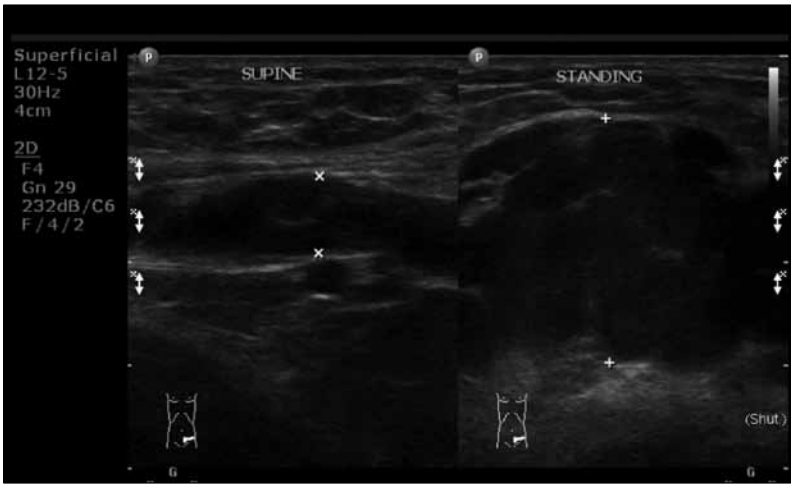

FIG 1. Round ligament varicosity appears more prominent when the patient is standing

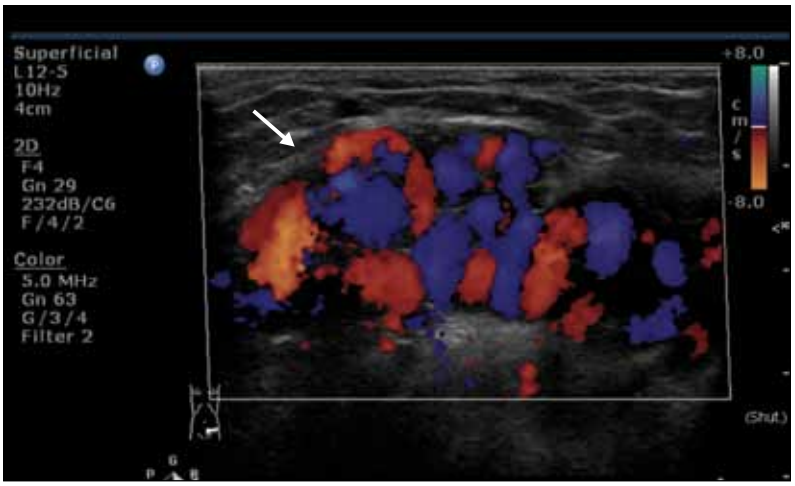

FIG 2. Vascular flow in round ligament varicosity (arrow) is demonstrated on colour Doppler study

Ultrasound study (Philips iU-11 ultrasound system, L12-5 linear transducer) showed multiple anechoic serpentine tubular channels at the left groin, corresponding to the swelling noted by the patient. It appeared more prominent when the patient was standing or performing Valsalva manoeuvre (Fig 1). Colour Doppler sonography showed hypervascularity with a venous flow pattern (Fig 2). The vascular structure extended to the left parauterine space (Fig 3). There was no definite intraluminal echogenicity to suggest thrombus. No soft tissue mass lesion or abnormal bowel structure was evident. The ultrasound was compatible with round ligament varicosity (RLV).

While the exact incidence of RLV is uncertain, RLV is a rare cause of groin swelling in pregnancy; a retrospective review yielded only five RLVs in 3816 pregnancies.[1] Varicosities arise from the veins draining the round ligament and the inguinal canal.[2] Pregnancy promotes increased venous flow and reduced venous tone, hence RLVs are more common in pregnancy. Notably, this entity shares similar clinical to inguinal hernias, particularly with respect to timing, since both can present in the second trimester of pregnancy.[3] Given its rarity and clinical resemblance with inguinal hernia, RLV is quite commonly misdiagnosed as a hernia, resulting in an unnecessary operation during pregnancy. Owing to the popularity of ultrasonography however, the probability of misdiagnosis has been considerably reduced. Round ligament varicosity can be readily diagnosed on ultrasonography; on grey-scale images it appears as "bag of worms" associated with dilated veins,[1] and the venous flow pattern on Doppler imaging can confirm the diagnosis and exclude other entities, such as endometriosis. Sonography is initially performed on supine patients, but the Valsalva manoeuvre and standing posture are also important, when it comes to considering subtle venous flows at rest.

With respect to the management, RLV should be dealt with conservatively, on the grounds that it will resolve spontaneously in the postpartum period.[4] However, RLVs during pregnancy may require close observation as they have been reported to give rise

to acute variceal thromboses and rupture.[1,3] If pain becomes the predominant symptom, thrombosis or rupture of RLV should be excluded.[5] When a pregnant woman presents with a groin swelling, ultrasonography plays an indispensable role in the diagnosis of RLV, and its recognition is important as unnecessary operation can be avoided with confidence.

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FIG 3. Extension of round ligament varicosity to the left parauterine space
R denotes rectus abdominis muscle, and U uterus

References

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2. Reisfield DR. Varicosities in veins of the inguinal canal during pregnancy. J Med Soc N J 1962;59:24-6.
3. Cheng D, Lam H, Lam C. Round ligament varices in pregnancy mimicking inguinal hernia: an ultrasound diagnosis. Ultrasound Obstet Gynecol 1997;9:198-9.
4. Copeland CE, Myers CJ. Round ligament varicosities mimicking inguinal hernias in a gravid patient. Surg Rounds 2008;31:34-6.
5. al-Qudah MS. Postpartum pain due to thrombosed varicose veins of the round ligament of the uterus. Postgrad Med J 1993;69:820-1.

Corrigendum

"Prenatal diagnosis and assessment of facial clefts: where are we now?" (April 2012;18:146-52). On page 148, the caption of the Figure should have read "Three-dimensional examination with three orthogonal plans and surface rendering" rather than "Three-dimensional examination with three orthogonal plans and surface rendering enhancement of perineurial tissue (dirty fat sign) which is not evident in optic neuritis" as printed. We regret the error.