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Round ligament varicosity – a rare mimicker of inguinal hernia in pregnancy

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Abstract

Introduction: Round ligament varicosity (RLV) is a rare condition in pregnancy, with approximately 80% of the women being referred by gynaecologists with clinical suspicion of groin hernia. Herein, we report a case of right RLV with a brief review of the literature to raise attention to this condition that can easily be misdiagnosed as a groin hernia thus leading to unnecessary interventions.

Case report: A 26-year-old woman presented with dull intermittent pain in the right groin and a lump in the right groin that appeared during the third trimester of the first pregnancy and disappeared after the delivery. The physical exam was normal, so RLV was suspected. During the second pregnancy, she complained of a slight swelling that appeared in the third trimester, accompanied by mild discomfort in the right groin. The physical exam revealed a small lump visible only in a standing position. The US demonstrated multiple dilated and tortuous veins in the inguinal canal that collapsed on pressure and became more prominent on the Valsalva manoeuvre. Doppler US confirmed the venous flow. The exam performed by a vascular surgeon showed multiple dilated pelvic veins and patent blood flow in the major veins of both limbs.

Conclusion: The RLV can easily be misdiagnosed as a groin hernia. The exact and timely diagnosis of RLV is critical to avoid unnecessary surgery and diminish the anxiety of the pregnant woman. The differential diagnosis of RLV is relatively straightforward when the surgeon is aware of RLV and the specific US findings.

Keywords

Round ligament varicosity, pregnancy, inguinal hernia

Introduction

Round ligament varicosity (RLV) is a rare condition characterized by dilated and tortuous veins of the round ligament. The first PUBMED publications came from Russia and England in 1952 and 1955 [1–2]. Despite the growing reports worldwide in recent decades, RLV is rarely considered a differential diagnosis of groin hernia [3–6]. Approximately 80% of the women in the series of Lechner et al. were referred by gynecologists with clinical suspicion of groin hernia [3].

Herein we report a case of right RLV with a brief review of the literature to raise attention to this condition that can easily be misdiagnosed as a groin hernia, thus leading to unnecessary interventions.

Case report

A 26-year-old woman presented with dull intermittent pain in the right groin and a lump in the right groin that appeared during the third trimester of the first pregnancy and disappeared after the delivery. The physical exam was normal so RLV was suspected. During the second pregnancy, she complained of a small swelling that appeared in the third trimester, accompanied by mild discomfort in the right groin. The physical exam revealed a small lump visible only in a standing position. Multiple subcutaneous dilated veins were in the lower part of the abdomen and on the labia majora. An oedema of both lower limbs was noted. The US demonstrated multiple compressible, dilated, and tortuous veins in the inguinal canal that became more prominent on the Valsalva maneuver (Fig. 1). Doppler US confirmed the venous flow (Fig. 2). The exam performed by a vascular surgeon showed multiple dilated pelvic veins and patent blood flow in the major veins of both limbs.

Discussion

The exact and timely diagnosis of RLV is critical to avoid unnecessary surgery and diminish the anxiety of the pregnant woman. In the most cited series, the rate of RLV is 0.1% [7]. The condition has been increasingly reported during the last two decades (the largest recent series reported 26, 41, and 28 patients, respectively) [3,8,9]. The most frequent complaint is groin swelling associated with mild pain or discomfort with onset during the second trimester in 90% of the cases [3,9]. In more than 90% of the women, the complaints subsided within 4 weeks after delivery [3]. In the series with the longest follow-up, Lechner et al. demonstrated that RLV does not increase the risk for groin hernia, but the recurrence rate is significant (89%) as in our case [3]. The same authors reported similar rates of hemorrhoids and varicose veins in pregnant women with and without RLV.

The round ligament connects the uterus to the labia majora passing through the inguinal canal containing veins draining to the inferior epigastric vein. RLV is probably caused by

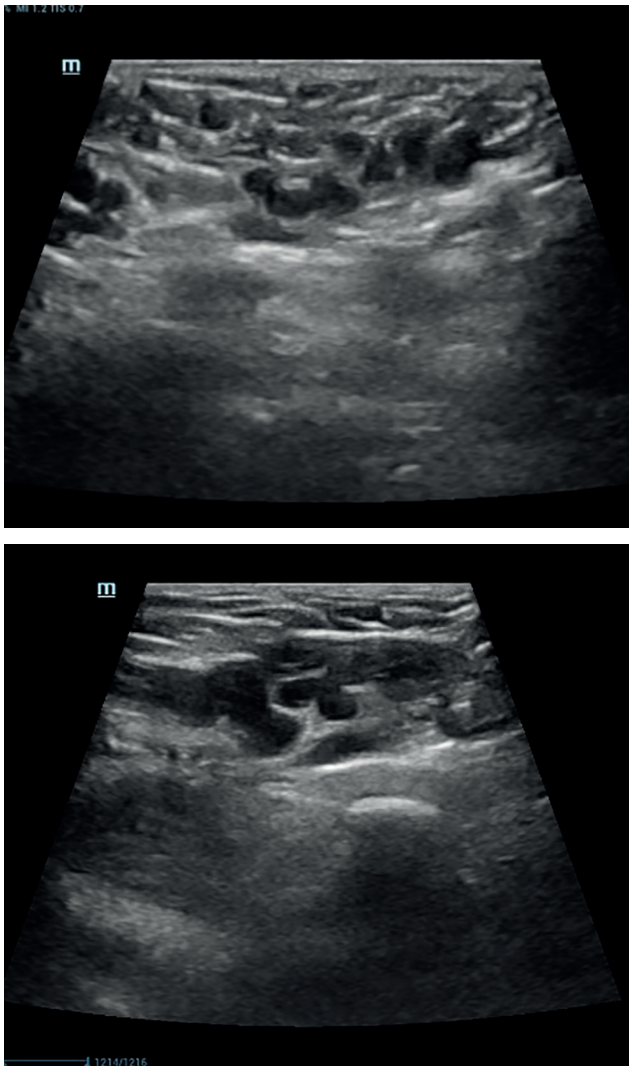

Figure 1. Multiple dilated veins in the inguinal canal on a gray-scale ("bag of worms")

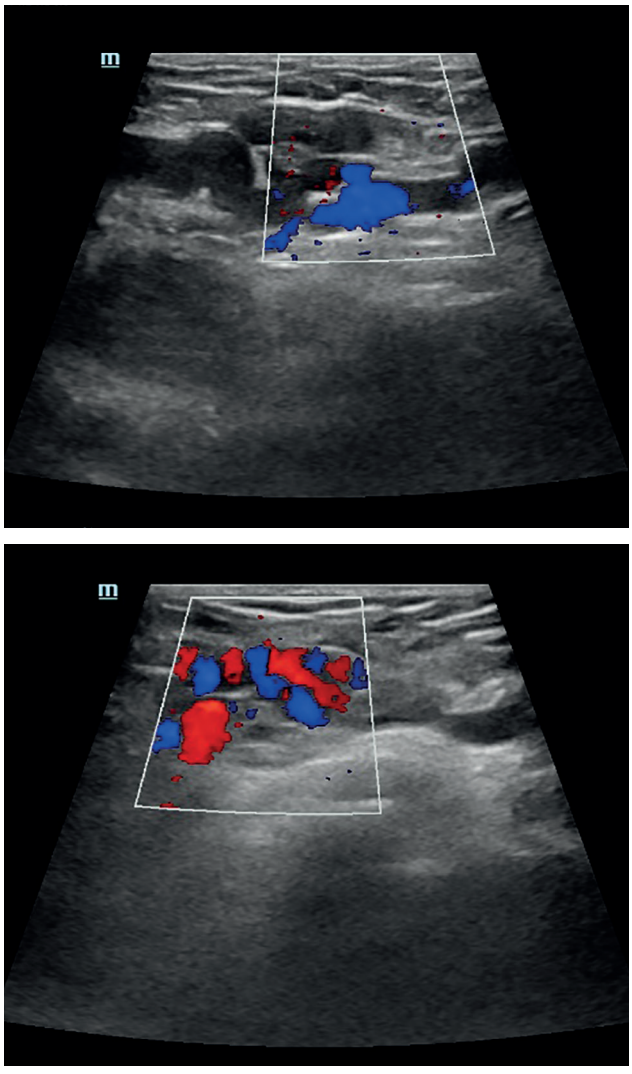

Figure 2. Venous flow on Doppler.

the increased pressure on the pelvic veins and the venous dilatation due to the hormonal changes in pregnancy. Several other causes probably play a role because only a small part of the pregnant women develop RLV. Some authors coined pelvic congestion syndrome (PCS) as a possible cause. Still, there were no specific complaints (heaviness or noncyclic lower abdominal or pelvic pain, dyspareunia, dysmenorrhea) in the present case [10,11]. The US plays a key role in the diagnostic because the clinical examination cannot discriminate RLV from inguinal hernia. A characteristic US finding is a cystic mass (a "bag of worms") in the inguinal canal, consisting of multiple dilated veins. Doppler US revealed a venous flow and increased caliber of the veins with the Valsalva maneuver. The flow and shape of the mass also change, which is related to body position and when applying pressure. Another important finding is the absence of bowel content or lymph nodes in the inguinal canal.The differential diagnosis of RLV is relatively straightforward when the surgeon is aware of RLV and epidemiology - the groin hernias in females are rare (10%), and even casuistic in pregnancy (0.1%) [12–13]. A swelling that appears during the pregnancy and subsides after delivery combined with the typical US is compatible with RLV. Both conditions do not affect normal vaginal delivery, which is crucial in the counseling of pregnant women [3,9].

Conclusion

The RLV can easily be misdiagnosed as a groin hernia. The exact and timely diagnosis of RLV is critical to avoid unnecessary surgery and diminish the pregnant woman's anxiety. The differential diagnosis of RLV is relatively straightforward when the surgeon is aware of RLV and the specific US findings.

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Additional information

Conflict of interest

The authors have declared that no competing interests exist.

Ethical statements

The authors declared that no clinical trials were used in the present study.

The authors declared that no experiments on humans or human tissues were performed for the present study.

The authors declared that no informed consent was obtained from the humans, donors or donors' representatives participating in the study.

The authors declared that no experiments on animals were performed for the present study.

The authors declared that no commercially available immortalised human and animal cell lines were used in the present study.

Use of AI

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Data availability

All of the data that support the findings of this study are available in the main text or Supplementary Information.

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