asses in the female groin are not common. The differential di-
agnosis of an inguinal mass includes hernia, mesothelial cyst,
cystic lymphangioma, adenopathy, endometriosis, and varices
(1, 2). Round ligament varicosities (RLV) can cause pain and have a pre-
sentation similar to that of inguinal hernia. The exact incidence of RLV
is uncertain, but McKenna et al. reported RLV in only five of 3816 preg-
nancies (3). Distinguishing between varicosities and hernias is important
in order to avoid performing unnecessary surgery. Inguinal masses that
are identified during pregnancy that resemble inguinal hernias must be
examined with gray-scale and color Doppler sonography.

Case report

A 24-year-old woman presented at 26 weeks' gestation with a painful
swelling in the right groin. On physical examination, she had a small
tender soft mass in the right groin. A complicated hernia was suspected,
and an urgent sonographic examination was performed. Sonograph-
ic examination of the groin was performed using an EnVisor scanner
equipped with a 12-MHz linear-array transducer (Philips Ultrasound,
Bothell, Washington, USA). Gray-scale sonography showed a mass in
the right groin composed of multiple echo-free serpentine tubular chan-
nels which became more prominent during Valsalva maneuver. Color
Doppler sonography confirmed hypervascularity and venous flow con-
sistent with round ligament varices (Fig. 1). The lesion extended from
the right inguinal canal to the abdominal cavity (Fig. 2) and right para-
erine space (Fig. 3). No thrombus was identified in the lesion.

The patient was treated conservatively, and had an uncomplicated
vaginal delivery at 40 weeks. The symptoms had resolved completely by
two weeks postpartum.

Discussion

The round ligament passes from the pelvis, through the internal ab-
dominal ring, and along the inguinal canal to the labia majora. Varicosi-
ties arise from the veins draining the round ligament and the inguinal
channel (4). RLV are more common in pregnancy because pregnancy pro-
motes increased venous flow and reduced venous tone.

RLV are easily misdiagnosed as an obstructed hernia, resulting in an
unnecessary operation during pregnancy. Both round ligament varicosi-
ties and inguinal hernias can occur in the second trimester of pregnancy
(1, 5). Pelvic vein enlargement typically occurs during this time, which
can sometimes extend to the round ligament in the inguinal canal, re-
sulting in round ligament varicosities. Progesterone receptors are nor-

M
Round ligament varicosities mimicking inguinal hernias in pregnancy

Volume 16 • Issue 2

due to increased intra-abdominal pressure during pregnancy.

The diagnosis of RLV can be established on gray-scale sonography, which typically demonstrates “bag of worms” appearance associated with dilated draining veins (1). The venous flow on Doppler imaging can confirm the diagnosis. Sonography is initially performed in the supine position. Valsalva maneuver is important in this examination because the venous flow may be subtle at rest.

Management of RLV differs greatly from that of inguinal hernias. Symptomatic inguinal hernias in pregnant women should be surgically repaired during the second trimester. In contrast, RLV should be managed conservatively, with the expectation that they will resolve spontaneously during the postpartum period (7). However, RLV require close observation during pregnancy because rupture of the varices, and acute variceal thromboses have been reported (1, 5). If pain is the predominant symptom, thrombosis or rupture of RLV should be excluded (8).

In conclusion, RLV are relatively uncommon and may be mistaken for a complicated hernia. Color Doppler sonographic examination is recommended in all cases with groin swelling to avoid unnecessary surgery during pregnancy.

Figure 1. a, b. Gray-scale (a) and color Doppler imaging (b) show a mass in the right groin composed of multiple echo-free serpentine tubular channels that filled with color on Doppler imaging. During Valsalva maneuver, the lesion shows dilatation and marked flow augmentation.

Figure 2. a, b. Sagittal gray-scale (a) and color Doppler imaging (b) reveal the lesion extending from the right inguinal canal to the abdominal cavity (arrows).

Figure 3. Color Doppler imaging shows multiple varicose pelvic veins in the right parauterine space that show continuity with the varicose veins located in the right inguinal canal.
References