

aorta (aortomesenteric compression)⁽¹⁻⁵⁾. In rare cases, the LRV is retroaortic. In such cases, compression occurring between the aorta and the spine is known as posterior NCS⁽²⁻⁴⁾. The nutcracker phenomenon corresponds to these findings without clinical correlation⁽²⁻⁴⁾. The prevalence of NCS is unknown, although it is known that it occurs predominantly in healthy, thin individuals between 20 and 40 years of age and in women⁽¹⁻⁴⁾. Clinically, hematuria is the most common finding, followed by pain on the left side, dyspareunia, dysmenorrhea, dysuria, varicoceles, and pelvic varices⁽¹⁻⁵⁾. In exceptionally rare cases, anatomic variations in the pancreas compress nearby vessels, including the LRV^(2,6,7).

Renal vein thrombosis (RVT) is common in nephrotic syndrome and in severely hypotensive neonates. Other causes: traumas, surgery, infections, neoplasias, vasculitis, venous compressions, contraceptives and myeloproliferative diseases. It's infrequent in healthy adults, predominantly unilaterally^(8,9). The clinical presentation of RVT is much like that of NCS, with the added features of an acute increase in renal volume, late atrophy, and progressive deterioration of renal function, as well as the complication of pulmonary thromboembolism in up to 50% of cases^(5,8,9).

The pathophysiology of thromboses encompasses Virchow's triad: endothelial lesions, stasis, and hypercoagulability. Generally, thrombotic events involve at least two factors, although one may be sufficient^(5,8,9).

One of the principal methods employed in the diagnosis of NCS is Doppler ultrasound, which is noninvasive and can be used in determining venous caliber and flow, the latter being suggestive of NCS when it exceeds 100 cm/s, with a sensitivity and specificity of 78% and 100%, respectively, for the diagnosis⁽¹⁻⁴⁾. It shows high sensitivity in the investigation of RVT⁽⁸⁾. Ultrasound, however, is operator-dependent and may not detect small thromboses^(8,9). For the diagnosis of NCS and RVT, angiography has a sensitivity of 66.7–100% and a specificity of 55.6–100%⁽⁸⁾. It is able to evaluate the aortomesenteric angle (compression); possible compression and dilation of the LRV; filling defects; endoluminal blood clots; and signs of chronic thrombosis, such as thickening of the vessel walls and calcifications^(1-4,9). However, it uses radiation and potentially nephrotoxic contrast agents^(8,9). Retrograde venography is the gold standard examination in NCS⁽¹⁻⁴⁾ and RVT⁽⁸⁾; it shows pressure gradients greater than 3 mmHg in the LRV, in

addition to the filling defects that represent thrombi^(1-4,8). However, it is invasive, potentially triggering thrombosis, and uses intravenous iodine⁽⁸⁾.

The therapeutic options are conservative treatment, reimplantation/transposition of the LRV, the use of an external or internal stent, renal autotransplantation, gonadocaval bypass, and nephrectomy⁽¹⁻⁵⁾. If RVT occurs, anticoagulation and thrombolysis can also be employed⁽⁸⁻¹⁰⁾.

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Atypical presentation of mature cystic teratoma (“floating balls”)

Dear Editor,

A 43-year-old female patient with no known diseases sought medical attention complaining of increased abdominal volume. The patient underwent ultrasound and subsequent magnetic resonance imaging (MRI) of the pelvis (Figure 1), which showed an expansile cystic lesion, with heterogeneous content, measuring 16.0 × 16.0 × 10.0 cm and containing numerous oval formations of various sizes. The lesion was hyperechoic on ultrasound and mobile upon a change in patient position. The oval formations showed intermediate signal intensity on T1- and T2-weighted MRI scans, with no evidence of signal loss in fat-saturated sequences or signal drop on an out-of-phase T1-weighted gradient-echo sequence. These imaging findings, although uncommon, are pathognomonic of mature cystic teratoma (MCT). The patient underwent surgery, and the diagnosis was confirmed by histopathological analysis of the surgical specimen.

Also known as a dermoid cyst, MCT is the most common benign ovarian tumor, accounting for 10–25% of cases in adult

patients and 50% of those in pediatric patients⁽¹⁻³⁾. MCTs are typically asymptomatic and slow-growing^(1,3). They are usually seen in women of reproductive age and are rarely diagnosed before puberty. Its growth ceases at menopause⁽⁴⁻⁷⁾. An MCT typically contains well-differentiated tissues of the three germ layers^(1,5): the ectoderm, (derived from the skin and neural tissues); the mesoderm (osteomuscular and adipose tissues); and the endoderm (ciliated and mucinous epithelium). The diversity of tissues in teratomas results in a wide variety of characteristics in imaging studies.

In most cases, pelvic tumors do not present imaging features that are considered diagnostic⁽⁸⁻¹²⁾. However, MCTs often present typical imaging features, which facilitate the diagnosis. Among such features, one of the most common is that of a fatty tumor⁽³⁾. In such cases, the most common ultrasound finding is that of a cystic mass with an echogenic tubercle (a Rokitansky nodule), presenting posterior acoustic shadowing secondary to calcifications, strands of hair, or foci of fat^(3,5,7).

Characteristic findings on computed tomography include areas of fat attenuation, with or without foci of calcification. On

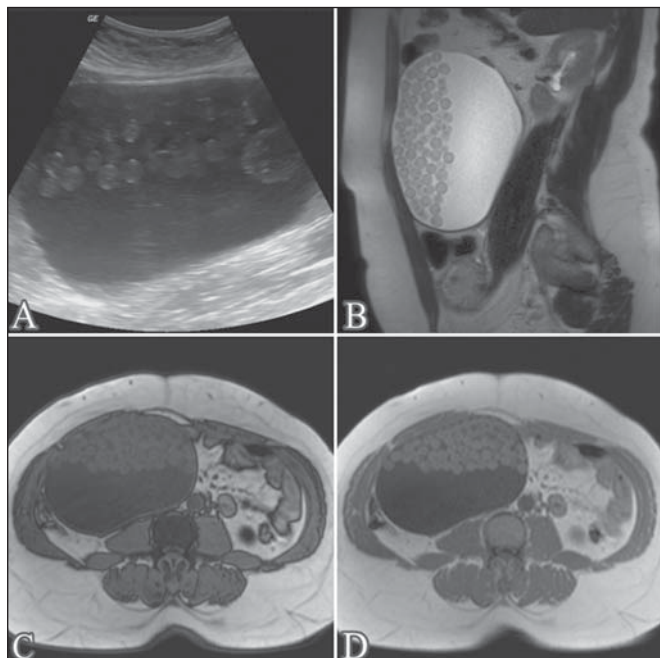


Figure 1. Ultrasound (A); sagittal T2-weighted MRI sequence (B); out-of-phase T1-weighted gradient-echo MRI sequence (C); and in-phase T1-weighted gradient-echo MRI sequence (D). Note the expansile cystic lesion with heterogeneous content, containing numerous oval formations that were hyperechoic on the ultrasound and showed intermediate signal intensity in the T1- and T2-weighted sequences, with no evidence of signal loss in the out-of-phase T1-weighted gradient-echo sequence.

MRI, the fat seen within the lesion produces a hyperintense signal on T1-weighted images and signal loss in fat-saturated sequences^(3,5,7). In rare cases, the presentation of MCT is atypical, which can be a diagnostic challenge for radiologists^(2,6). Multiple small floating spheres within a large cyst, as observed in the case presented here, is one of those rare presentations, known as the “floating ball” presentation^(4,6). Histologically, the spheres are composed of keratin, fibrin, hemosiderin, sebaceous debris, hair, and fat, in variable proportions^(2,6,13). Although the mechanism of formation of these spheres has yet to be clarified, it is speculated that it involves aggregation of sebaceous material around a nidus^(2,4,14). The mobility of the spheres is due to their low density relative to the other content of the cyst^(2,4,6). A finding of multiple floating spheres within a single large cyst has not been reported for other types of tumors and is therefore considered pathognomonic of MCT^(2,4,6,14-16).

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Self-limiting thoracic aortic dissection during bronchial artery embolization

Dear Editor,

A 75-year-old woman presented with a 3-week history of intermittent hemoptysis related to a history of recurrent episodes of pneumonia. Chest computed tomography (CT) showed cylindrical bronchiectasis in the lingula, and bronchoscopy showed clots in the left bronchial tree. Bronchial arteriography was requested and revealed a shunt (Figure 1A) between the left bronchial ar-

tery and the left pulmonary artery. During manual-injection digital subtraction angiography, enhancement and stagnation of the contrast media were observed in a false lumen of the descending thoracic aorta (Figures 1B and 1C), consistent with iatrogenic aorta dissection. The iatrogenic aortic dissection extended to the left bronchial artery, leading to obstruction of blood flow to the shunt. However, there were no signs of hemodynamic instability, and the patient therefore received conservative therapy with clinical and radiological monitoring. A second CT scan, obtained 7 days later, showed that the iatrogenic aorta dissection was stable