Case of the month July 2012

32-year-old woman presents with severe right upper quadrant pain. An abdominal ultrasound showed a well-circumscribed, right-side retroperitoneal soft tissue mass inferior to the right lobe of liver and antero-medial to the right kidney. The mass did not appear to arise from the liver, right kidney, or pancreas. There was no intra-abdominal lymphadenopathy or ascites.

Further characterization of this intra-abdominal mass was performed with an enhanced abdominal CT.

• What are the imaging findings?
• What is the differential diagnosis?
• What is the diagnosis?
CT abdo

Figure 1 A and B – Arterial Phase
Figure 1 C – Arterial Phase
CT abdo

Figure 2 A and B – Venous Phase
CT abdo

Figure 2 C – Venous Phase
Imaging Findings

- Figure 1 (a, b, and c) - Arterial phase CT images demonstrate a cystic retroperitoneal mass with calcification. Minimal soft tissue enhancement is seen. Supplying right lumbar artery also visualized.

- Figure 2 (a, b, and c) - Portal venous CT images show progressive soft tissue enhancement of the retroperitoneal mass.
Differential Diagnosis

• The differential diagnosis for a cystic retroperitoneal mass with calcification and enhancing soft tissue components includes:
  
  • Neoplastic - Cystic Lymphangioma, Mucinous cystadenoma, Cystic Teratoma, Cystic Mesothelioma, Mullerian Cyst, Epidermoid Cyst, Bronchogenic cyst, Paraganglioma & Ganglioneuroma.

  • Non-neoplastic – Lymphocele, Urinoma & Hematoma
Diagnosis

- Retroperitoneal Ganglioneuroma
Discussion

- Ganglioneuromas are benign tumours of the peripheral nervous system originating from neural crest cells and arising from sympathetic chain ganglia.
- They are highly differentiated. The retroperitoneum (32%-52% of cases), posterior mediastinum (39%-43%), and the cervical region (8%-9%) are the most common sites for these tumours.
- On cross-sectional imaging, they appear as well-circumscribed oval, crescentic or lobulated masses.
Discussion

• They have a tendency to partially or completely surround vessels, with little or no compromise of the vessel lumen.

• On CT, punctate calcification is seen in 20%-40% of cases. On unenhanced CT, most ganglioneuromas appear homogeneous with low or intermediate attenuation, generally less than that of muscle.

• Heterogeneous regions may be due to cystic degeneration or necrosis.

• On enhanced CT, the degree of enhancement varies, but ganglioneuromas usually demonstrate gradual progressive enhancement.
References


• Case submitted by Abdullah Alabousi