Transoesophageal Echocardiographic Visualization of Renal Cyst Mimicking Aortic Aneurysm

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We report a tricky case of a 63-year-old man with previous coronary artery bypass graft surgery in whom transoesophageal echocardiography revealed a voluminous echolucent cavity simulating aortic ectasia but that proved to be of nephrogenic origin.

The patient, a 63-year-old man, was referred to the echocardiography laboratory for dobutamine stress echocardiography because of atypical chest pain after surgery. Transthoracic echocardiography had poor imaging quality and a transoesophageal approach was planned. The stress test was negative for induced myocardial ischaemia but scanning of the aortic region

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Received 7 July 2001; revised manuscript received 3 August 2001; accepted 6 August 2001.

Figure 1. Multiplane transoesophageal echocardiography. (a) Short-axis view showing an echolucent cavity. (b), (c) Multiple long-axis scans of the same cavity. (d) Colour Doppler imaging with no detectable flow.
Figure 2. Abdominal computed tomography. Frontal (top) and transverse scan (bottom) showing a voluminous renal cyst of the left kidney.
Figure 3. Abdominal magnetic resonance imaging. Transverse scans at different levels delineating the renal cyst.
showed a large echolucent cavity suggesting an aneurysm.

Transoesophageal scans are shown in Fig. 1; no flow was detected inside the lumen on colour Doppler evaluation. Thoracic and abdominal computed tomography (Fig. 2) showed normal kidneys with multiple cysts the biggest of which (11 × 12 cm) was located at the upper pole. Abdominal magnetic resonance imaging (Fig. 3) confirmed tomographic findings and showed several cysts the biggest one (12 cm) originating from the anterior surface of the left kidney and projecting towards the anterior structures. No surgery was performed and the patient is still followed up at the outpatient department.

Discussion

Contrast aortography is no longer considered to be the diagnostic gold standard for evaluating the thoracic aorta. Multiplane transoesophageal echocardiography, spiral computed tomography and magnetic resonance imaging represent the relatively non-invasive techniques available for imaging thoracic aortic disease, especially in the evaluation of aneurysms and dissections[1-3]. Standard transoesophageal echocardiographic views include the ascending aorta, the transverse and distal aortic arch, the mid-thoracic aorta, and the distal thoracic or proximal abdominal aorta from the fundus of the stomach. Transoesophageal approach facilitates imaging of thoracic true and false aneurysms, both congenital and acquired, and is particularly helpful in differentiating atherosclerotic from dissecting aneurysms. In patients with an ectatic, tortuous, or aneurysmal aorta, the image planes may be oblique, making accurate cross-sectional measurement of luminal diameter difficult.

Colour flow patterns are observable and useful in both longitudinal and transverse orientations and can be used to aid in the location and identification of vascular structures. Abnormal flow patterns can suggest or confirm aortic pathology or confirm that there is a normal flow pattern within the aorta. Colour Doppler imaging frequently demonstrates a slowly circulating or swirling type of flow pattern, and there is often spontaneous echo contrast in the dilated aorta.

Localized cystic disease of the kidney is a benign non-surgical condition[4] that is differentiated from autosomal dominant polycystic kidney disease, multilocular cystic nephroma, and cystic neoplasm. No flow pattern was observed inside the lumen in our patient. The transoesophageal echocardiographic detection of what could easily be mistaken by an ectatic aorta is clinically very relevant.

References