Multislice computed tomography in mitral and aortic stenosis

Apport du scanner multibarettes dans un cas de rétrécissement mitral et aortique

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Received 15 April 2008; received in revised form 8 May 2008; accepted 14 May 2008
Available online 12 September 2008

We report the case of a 62-year-old woman referred to our institution for surgery for rheumatic mitral and aortic stenoses. Multislice computed tomography (CT) was performed to assess her coronary status before surgery. The coronary arteries appeared free of significant stenosis. Interestingly, CT brought additional imaging of the mitral valve. Indeed, CT scans showed the thickened mitral valve along with commissural fusion. The mitral valve area, found using minimal intensity projection reconstruction (Fig. 1, lower left panel), was found at 1.3 cm², which was very close to that found using standard echo techniques (upper left panel), at 1.2 cm².

Comment

Images obtained using a volume-rendering technique (right panel) brought additional three-dimensional information that was very similar to the surgical view. Moreover, owing to its good spatial resolution, CT is a reliable tool for the research of left atrial thrombus and can probably provide additional images of the mitral valve apparatus. Therefore, in addition to echocardiography, CT has the potential to assess features crucial in the management of patients with mitral stenosis, including valve area, thrombus existence and probably also the apparatus. These data can be obtained without the patient being exposed to additional radiation.

Figure 1. Upper left: echocardiography: parasternal short-axis view of the mitral valve; the area was measured at 1.2 cm². Lower left: computed tomography scan, same incidence. Minimal intensity projection clearly depicts commissural fusion of the mitral valve. The surface area was calculated at 1.3 cm², in good agreement with the echocardiography results. Right: three-dimensional view using volume rendering.