

PERSISTENT LEFT SUPERIOR VENA CAVA DEMONSTRATED BY RADIONUCLIDE ANGIOCADIOGRAPHY: CASE REPORT

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This report presents a patient with a persistent left superior vena cava demonstrated by radionuclide angiocardiology. The appearance is characteristic.

Persistent left superior vena cava presents striking and characteristic radionuclide angiographic findings that should be readily recognized.

CASE REPORT

Radionuclide angiography was performed on a 39-year-old black woman with rheumatic heart disease involving the mitral and aortic valves and repeated episodes of congestive heart failure. The study was part of an evaluation for possible cardiac surgery. An echocardiogram demonstrated classical findings of mitral stenosis with left atrial and left ventricular enlargement.

A bolus of 20 mCi of ^{99m}Tc -pertechnetate was injected into the left external jugular vein. Its passage was monitored from the left anterior oblique aspect of the neck and chest and recorded on videotape from which images were exposed onto film (Fig. 1A-D). Enlargement and delayed emptying of the left atrium and enlargement of the left ventricle were noted. In addition, the radionuclide was seen to course initially from the left external jugular vein down the left paramediastinum and into the right atrium through the coronary sinus. It also flowed through the left innominate vein but no right superior vena cava was identified.

DISCUSSION

Persistent left superior vena cava, the result of failure of obliteration of the left anterior and common cardinal veins, has been well described (1,2). This case, with probable associated absence of the right superior vena cava, is unrelated to the patient's acquired cardiac disease but will be significant if cardiac catheterization or bypass surgery is performed. Because persistent left superior vena cava is not rare, its occasional incidental discovery should be antici-

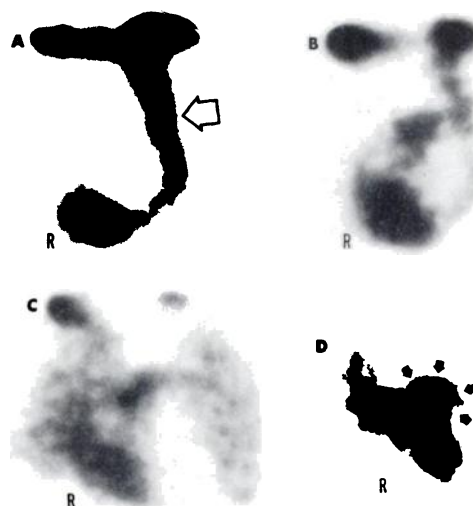


FIG. 1. Radionuclide angiogram imaged from left anterior oblique aspect shows flow from left external jugular vein down left superior vena cava (arrow) into right atrium through coronary sinus. Innominate vein is also seen crossing superior mediastinum (A). Sequential images show pulmonary outflow tract (B), lungs (C), and enlarged left atrium (arrows) and left ventricle (D).

pated and its characteristic radionuclide angiographic appearance readily recognized. This will allow appropriate planning of the approach for the definitive diagnostic procedure, i.e., cardiac catheterization.

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