

involvement of the right atrium or inferior vena cava (Fig. 2, Video 2. See corresponding video/movie images at www.anakarder.com). There was no regional wall motion abnormality or pericardial disease.

Cardiac tumors can be either primary or secondary. Myxoma is the most common primary benign tumor of the heart. Sarcoma is the most common primary malignant cardiac tumor. Secondary malignancies of the heart are far more common than the primary tumors. Most of them are discovered in postmortem studies. Malignant melanoma and lung cancer are still the leading cause of secondary tumors, followed by the cancer of the breast and lymphoma. Renal cell cancer typically presents with hematuria and flank mass. Prognosis depends on tumor staging and presence of metastases. Metastatic disease has dismal prognosis despite recent advances in treatment such as immunotherapy. Cardiac metastasis of renal cell cancer is not uncommon and tumor extension through the renal vein and inferior vena cava is the main mechanism of tumor spread. On the other hand, metastases by diffuse systemic spread such as our case are very uncommon. This pattern of metastasis should be considered as Stage 4, and 5-year survival is less than 10%. Transthoracic echocardiography is the diagnostic tool of choice in the assessment of patients with renal cell carcinoma when cardiac metastasis is suspected. Transesophageal echocardiography and MRI are also contributory to determine the extensiveness of the cancer.

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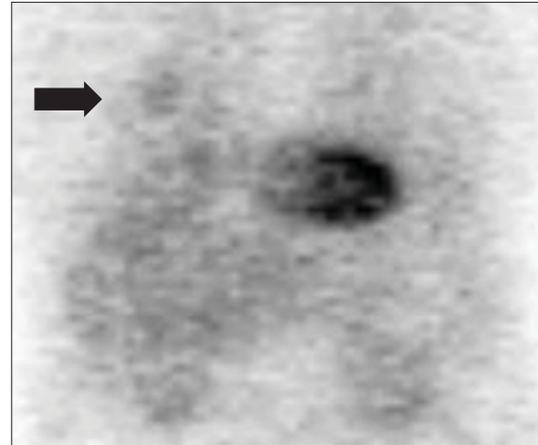


Figure 1. Anterior planar projection image shows faint focal uptake of Tl-201 in the right lung (111 MBq Tl-201 i.v.; acquisition parameters: 30% energy window centered on a 72 KeV photopeak, 20% energy window centered 30% energy window centered on a 167 KeV photopeak; 64 x 64 matrix with 64 frames at 20 sec/frame)



Figure 2. Thoracic reconstructed image demonstrates intense focal uptake of Tl-201 in the same region

Incidental detection of a lung tumor on Thallium-201 myocardial perfusion SPECT imaging

Akciğer kanserinin SPECT Talyum-201 miyokard perfüzyon görüntüsünde tesadüfen bulunması

Chest pain in a male prompted a myocardial single photon emission computed tomography (SPECT) study with Thallium-201 (Tl-201). Its reconstructed images showed no myocardial perfusion abnormalities. Evaluating the SPECT raw data, faint focal Tl-201 uptake was observed in the mid-region of the right lung (Fig. 1). Additional reconstruction of the entire thorax SPECT images, with an iterative method (ordered-subset expectation maximization algorithm, with 6 iterations and 4 subsets) revealed discrete focal uptake of Tl-201 (Fig. 2, Video 1. See corresponding video/movie images at www.anakarder.com). Chest computed tomography showed a lesion in the middle of the right lung (Fig. 3). The patient was operated; pathology diagnosed pulmonary adenocarcinoma. No metastases were found; on follow-up no disease recurrence was noted.



Figure 3. Chest CT with a lesion corresponding to the region of Tl-201 focal uptake

CT- computed tomography

Rarely, extracardiac TI-201 is seen on myocardial SPECT. In our case, careful inspection of projection images for noncardiac activity and reconstruction of thoracic SPECT images resulted in early tumor detection and life-saving surgery.

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An uncommonly seen congenital heart defect: aortopulmonary window with pulmonary hypertension in a 19-year old male patient

Nadir görülen bir konjenital kardiyak anomali: On dokuz yaşında erkek hastada pulmoner hipertansiyonla birlikte aortopulmoner pencere

A 19-year old male was referred to our department because of complaints of fatigue, dyspnea on exertion, history of frequent respiratory tract infections and cardiac murmur due to ventricular septal defect, which was diagnosed in his early childhood. Physical examination revealed a grade 2/6 pansystolic murmur over the left sternal border. Chest X-ray showed cardiomegaly with increased pulmonary vasculature. Biventricular hypertrophy was seen in his electrocardiogram. Transthoracic echocardiography showed a large defect between the ascending aorta and main pulmonary artery just 1-cm above the semilunar valves which were separately visualized and a small subaortic ventricular septal defect of 3-mm in size. The left and right atrial and ventricular dimensions were increased, systolic

pulmonary artery pressure was 105 mmHg and pulmonary vascular resistance was 3.45 Woods unit. The computerized tomographic angiography demonstrated a large aortopulmonary window of 3x4 cm in size, located 1-cm above the separate semilunar valves (Fig. 1). Coronary orifices were normally located and no other anomaly was found. Cardiac catheterization indicated the presence of a left-to-right shunt and Qp/Qs was 2.2. The patient was referred to cardiovascular surgery department and the aortopulmonary window was closed from the aortic side by using a dacron patch. There was no problem in the postoperative period and the systolic pulmonary artery pressure was 50 mmHg measured by transthoracic echocardiography on the 30th day after operation.

Aortopulmonary window is an uncommon malformation that is found as a window-like communication between the ascending aorta and pulmonary artery. Early surgical repair of the defect should be performed before the development of irreversible pulmonary hypertension.

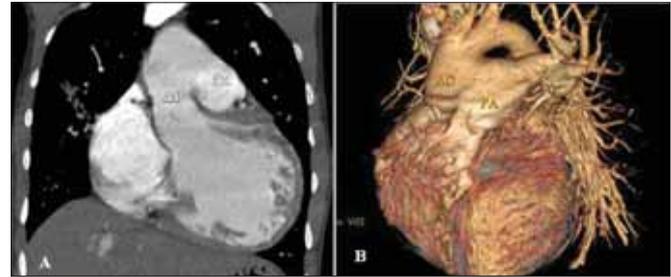


Figure 1. Computerized tomographic angiography 2-dimensional (A) and 3-dimensional colored (B) views of the window between the ascending aorta and the pulmonary trunk

Ao – aorta, PA – pulmonary artery

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