

(RA) was compressed by the liver. Narrowing of the inferior vena cava (IVC)-RA junction, at deep inspiration was remarkable (Video 1. See corresponding video/movie images at [www.anakarder.com](http://www.anakarder.com)). A 72 mm Hg peak gradient emerging at deep inspiration and disappearing at expiration was documented with the pulsed-wave Doppler (Fig.2). Magnetic resonance imaging revealed that the liver was displaced due to the right-sided diaphragmatic elevation and was compressing the IVC and its entrance to RA in a temporal fashion (Fig.3). After excluding the probable underlying causes, the patient was diagnosed to have idiopathic unilateral diaphragmatic paralysis. Interestingly, the dynamic pattern of this obstruction changing with respiration prevented the right sided heart failure symptoms and signs; thus, the patient did not require treatment other than antihypertensive therapy.

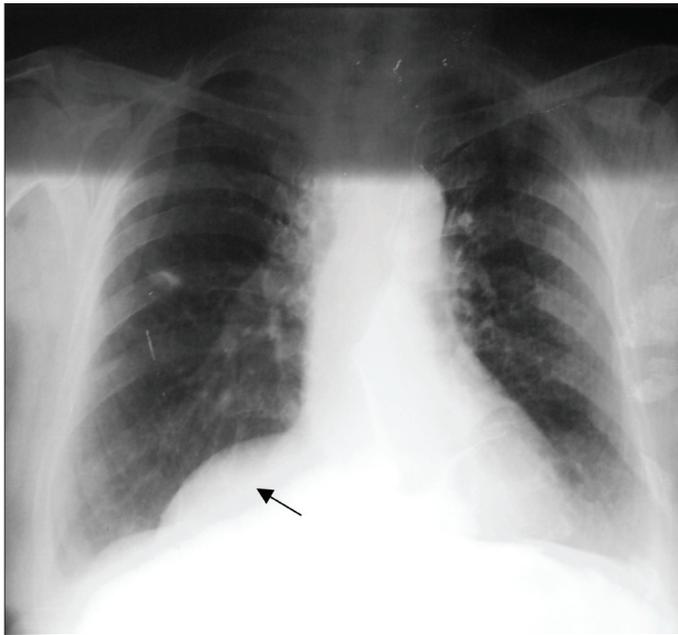


Figure 1. Chest X-ray view of right-sided diaphragmatic elevation

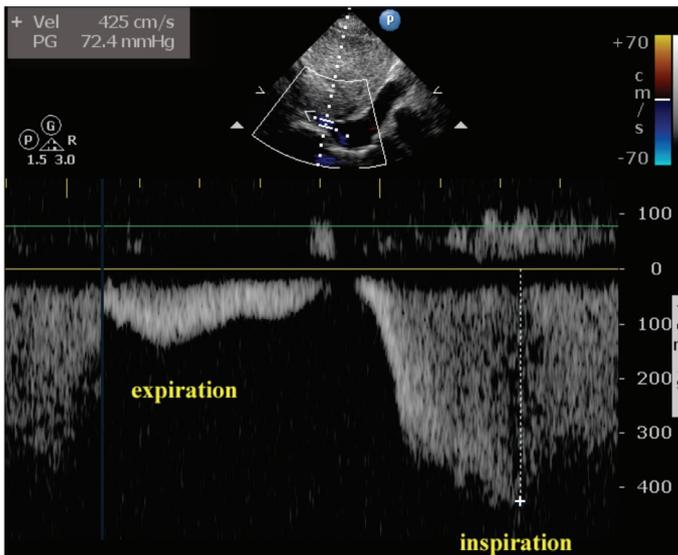


Figure 2. Doppler echocardiography view of dynamic obstruction at deep inspiration with peak pressure gradient of 72 mm Hg gradient and remarkable reduction of pressure gradient at expiration

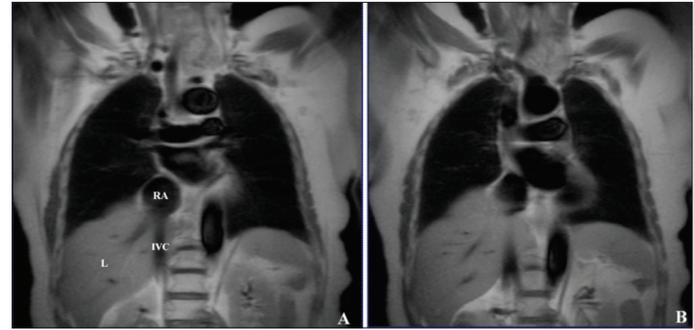


Figure 3. Magnetic resonance imaging coronal views of displaced liver due to the right-sided diaphragmatic elevation, with compression of the IVC and its entrance to RA

IVC - inferior vena cava, L - liver, RA - right atrium

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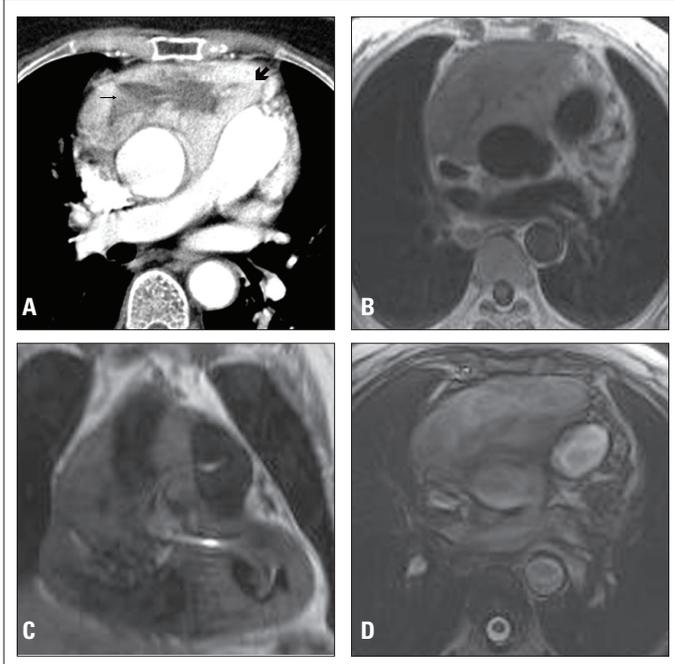
## Intrapericardial paraganglioma

### İntraperikardiyal paragangliyom

A 70-year-old woman applied to our hospital with complaints of shortness of breath and fatigue. The laboratory tests and physical examination were insignificant. Contrast enhanced lung computerized tomography was performed after depiction of mediastinal enlargement at the chest X-ray. A large, strongly enhancing mass encasing major vessels arising from the heart and hardly discriminated from the atrium was seen (Fig. 1A). Magnetic resonance (MR) imaging was performed before and after contrast material administration in order to better demonstrate the anatomical origin of the mass and its relationship with the neighboring structures. On MR images, intrapericardially located mass with dimensions of 6x5 cm was detected. The borders were easily discerned from the mediastinal borders. The mass encased proximal portion of ascending aorta and pulmonary trunk anteriorly and displaced aorta to posterior and pulmonary artery to the left. (Fig. 1B-D). After contrast material administration, intense peripheral enhancement and centrally located non-enhancing portion was seen. Surgical resection was planned but only sampling for histopathological diagnosis could be made due to high vascularization and myocardial invasion of the tumor. Histopathological diagnosis was paraganglioma (Fig. 2). An 18F-fluorodeoxyglucose positron emission tomography revealed no other focus. The treatment protocol involved radiotherapy.

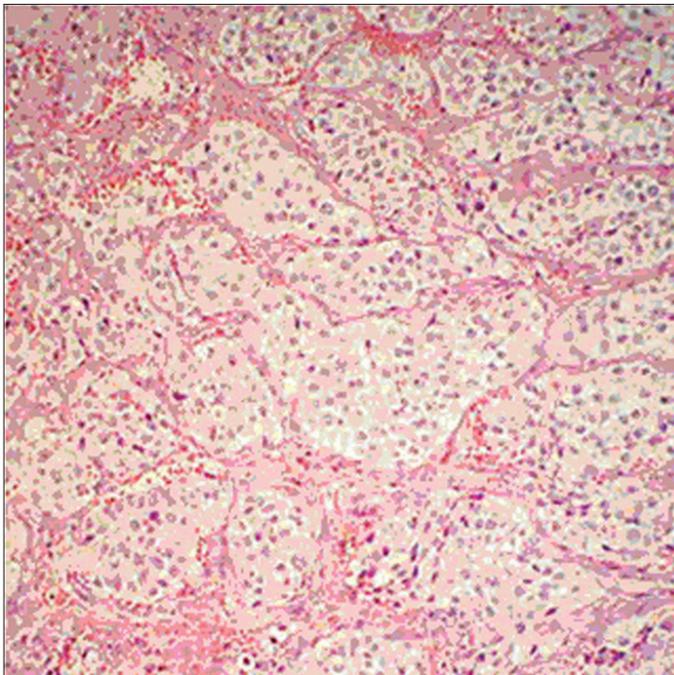
Paragangliomas (glomus tumor or chemodectoma) are rare neuro-endocrine tumors arising from chromaffin cells. Pericardial or cardiac paragangliomas are even rare. Some lesions may show nonenhancing areas due to hemorrhage or necrosis. The differential diagnosis com-

prises lymphoma, Castleman's disease, metastases and sarcomas. Paragangliomas should be considered in the differential diagnosis of strongly enhancing mass lesions at pericardial or cardiac region.



**Figure 1.** A) CT image of strongly-enhancing mass (thick arrow), with a necrotic central portion (thin arrow), encasing pulmonary artery and aorta. T1-weighted axial (B) and coronal (C) MR images of intrapericardial, heterogeneous mass of low signal intensity at aorticopulmonary region (D) T2-weighted axial MR image of the lesion with higher signal intensity than muscle and less signal intensity than surrounding fat tissue

CT – computerized tomography, MR – magnetic resonance



**Figure 2.** High-power photomicrograph demonstrates the nesting (zellballen) appearance of the paraganglioma cells (original magnification, 300; H-E stain).

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## Calcified ball- like left ventricular thrombus embolized during echocardiography follow-up

*Ekokardiyografi takibi sırasında embolize olan kalsifiye top şeklinde sol ventrikül trombüsü*

A 48-year-old male was admitted to our cardiology department with complaints of dyspnea and palpitations for ten days. He had smoking history for 30 years as a risk factor for coronary artery disease. The patient was tachypneic and cyanotic; his blood pressure was 100/80 mmHg, pulse rate - 130 beats/min and respiratory rate was 25/min. On cardiovascular examination, a grade 2/6 systolic murmur was heard at the left sternal border. Electrocardiogram showed atrial fibrillation with anterior QS pattern. There was a mild leukocytosis and troponin level was 0.5 ng/dl. There was a cardiomegaly on telecardiography and transthoracic echocardiography demonstrated mild mitral regurgitation and global left ventricular (LV) hypokinesia with LV ejection fraction of 25%. Besides, there was a huge calcified ball-like mass (2.7 cm x 3.0 cm) in the LV apex. Urgent cardiac surgery was planned for thrombus removal. A second echocardiography follow-up was done before the cardiac surgery. During that time, he had begun to describe a severe abdominal pain and general surgeons were called for consultation. We re-evaluated the patient by echocardiography with the suspicion of embolization of the thrombus. Interestingly, there was no any thrombus in the LV cavity (Video 1. See corresponding video/movie images at www.anakarder.com). We performed mesenteric angiography. Celiac artery and its branches, and superior mesenteric artery were normal. However, inferior mesenteric artery was totally occluded by thrombus just above the bladder (Video 1. See corresponding video/movie images at www.anakarder.com). The patient was treated with heparin and aspirin for 5 days and was discharged in a good condition with prescription of coumadin, aspirin plus heart failure treatment.

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