Right Atrial Blood Cyst:
A Very Rare Finding in Elderly Patients:
Case Report

Sağ Atriyal Kan Kisti:
Yaşlı Hastalarda Çok Nadir Bir Bulgu

ABSTRACT Intracardiac blood cysts are generally observed in infants and spontaneously disappear during the first six months of life. Therefore, they are rarely seen in adults. The most of blood cysts are located in the left-side of heart and on atrioventricular valves. In the literature, there are a small number of cases of blood cysts in the right atrium in adults. They are generally congenital origin and their possible etiology is invaginations of atrial endotelium into the stroma of atrioventricular valves. The blood cysts leading to complications such as valve dysfunction and ventricular outflow tract obstruction should be removed surgically. However, there is no consensus concerning the optimal management of asymtomatic patients. In this paper, we reported a 79-years-old female patient who had a blood cyst in the right atrium and attached interatrial septum.

Key Words: Echocardiography; cysts; heart atria


Anahtar Kelimeler: Ekokardiyografi; kistler; kalp atria


Intracardiac blood cyst is a rarely encountered entity in adults. They are mainly seen in infants and dissipate during the first six months of life. Generally, they are asymptomatic, congenital origin and detected on atrioventricular heart valves. Their possible etiology is microscopical invaginations of atrial endotelium into the stroma of atrioventricular valves. The blood cysts which lead to complications such as valve dysfunction and ventricular outflow tract obstruction should be removed surgically. However, there is no consensus concerning the optimal management of asymptomatic patients. In this case, we described a 79-year-old female patient with blood cyst attached to the interatrial septum in the right atrium.
CASE REPORT

A 79-year-old woman presented with crescendo exertional dyspnea for a week, was normotensive and had no history of heart failure, myocardial infarction or angina. Physical examination revealed bilateral crepitare rale in basal and mid areas of lungs. The electrocardiographic findings were normal. The chest roentgenogram demonstrated the infiltrations in basal-mid areas of lungs. Complete blood count revealed a haemoglobin of 6.7 g/dL, a hematocrit of 21.3% and a leucocyte count of 9300/μL. Biochemical tests were within normal limits. An echocardiography was ordered to further evaluation of heart functions. It was demonstrated a mobile 13x13 mm cystic circular mass attached to right interatrial septum with normal systolic and diastolic left ventricular function (Figure 1A and B). The mass well circumscribed, had a thin wall and echolucent core. Contrast echocardiography with agitated saline was performed to better characterization of the mass. No contrast uptake was showed into echolucent central core after administration of agitated saline (Figure 2). The patient was admitted to cardiology department and erythrocyte suspension was replaced. In addition, serologic test (indirect haemagglutination) for Echinococcus and computed tomography (CT) of the torax for pulmonary embolism were performed. The serologic test was found negative. Torax CT was found normal and pulmonary embolism was excluded. The dyspnea was progressively improved after erythrocyte suspension replacement. Therefore, we decided that dyspnea was resulted from anemia as the patient had normal left ventricular function. We diagnosed as blood-filled cyst of right atrium attached to septum based on the presence of characteristic echocardiographic findings, negative serology and normal thorax CT. Then, the patient was discharged and referred to haemotology department for further evaluation of anemia etiology.

DISCUSSION

Intracardiac blood cysts are generally observed in infants and disappear during the first six months of life. Therefore, they are rarely seen in adults. The most of blood cysts are located in the left-side of heart and on atrioventricular valves. Rarely, they originate from the right atrium and ventricle. The origin of blood cyst is not exactly detected yet. However, they are generally considered as a diverticuli lined by endothelium and consist non-organized blood or seroanginous fluid. The cardiac blood cysts are generally asymptomatic but some complications rarely reported because of valve dysfunction and ventricular outflow tract obstruction.

The differential diagnosis of right-sided cystic mass includes right atrial myxoma, abscess forma-
tion as a sequel of endocarditis, hydatid cyst, cavi
tating thrombus and blood cyst. For detecting of 
the intracardiac mass, echocardiography is the most
important technique, because of various mass
exhibit different findings. For example, myxomas
tend to be heterogeneous and they always exhibit
contrast uptake. Blood cysts are seen as a well-cir-
cumscribed homogenous mass with a thin wall and
echolucent core. In addition, they usually exibit no
contrast uptake into echolucent central core. The
hydatid cysts tend to be large, thin walled and sep-
taled. Also, they are generally located in the left
ventricular free wall. The right-sided thrombus is
usually mobile and have a snake-like or popcorn ap-
pearance as a characteristic finding. Also, they almost
always are associated with pulmonary embolism.
Whereas, torax CT of our patient was normal.

On the other hand, there are numerous
anatomic variants that are potentially confused
with pathologic structures in the right atrium. The
most commonly encountered normal structures
are Chiari network, eustachian valve and catheter
or pacemaker leads. The Eustachian valve is a rem-
nant of the embryologic inferior vena cava valve and
normally regresses during the embryonic develop-
ment. It is a rigid, gibbous and usually immobile
structure that are located at the junction of the in-
ferior vena cava and right atrium. The Chiari net-
work is a membranous structure that is usually
fenestrated and highly mobile. It is arises near the
orifice of the inferior vena cava and may terminate
various site of the right atrium. We excluded these
anatomic variants because the mass of our patients
was not related the inferior vena cava and did not
contain fenestra which cause contrast uptake.

We diagnosed a blood cyst in our patient be-
cause of presence of typical echocardiography find-
ings such as homogenous pattern of cystic fluid and
absence of contrast media uptake and absence of an
other history and laboratory abnormalities except
for deep anemia.

There is no consensus considering the optimal
management of blood cysts. Symptomatic blood
cysts leading to valvular or ventricular dysfunction
should be excised. However, there are different
opinion for asymptomatic cysts in literature. Some
authors have proposed routinely surgical excision
of asymptomatic blood cysts to avoid potential
complications. At the same time, others recom-
ended that these cysts can be safely monitored
with serial echocardiographical studies until there
is a clinical symptom.

In conclusion, we described a 79-year-old fe-
male patient who has a slightly mobile blood cysts in
right atrium. In adults, blood cyst is a very rare find-
ing that our review of the literature revealed the
oldest patient with blood cyst is 72 years old. We
believe that blood cysts can successfully managed
conservatively until appear clinical symptoms.

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