(1). Multislice computed tomography (CT) may be useful for detecting myocardial fat infiltration and diagnosing ARVC (1-3). Because of its excellent spatial and temporal resolution, CT has received much attention in diagnosing of ARVC. It has been reported that CT findings of ARVC are (a) a dilated right ventricle, b) abundant epicardial adipose tissue, (c) conspicuous trabeculations with low attenuation, (d) a scalloped appearance of the right ventricular free wall, and (e) intramyocardial fat deposits (1, 2).

Coronary artery fistula is an uncommon clinical entity with an incidence in selected series ranging from 0.26% to 0.40% of congenital cardiac anomalies. Many adults are asymptomatic if the fistulae are small. Symptoms of fatigue, dyspnea, angina (due to "steal" phenomenon), atrial arrhythmia, signs of congestive heart failure, pulmonary hypertension or infective endocarditis are seen. In one report, patients older than 20 years had dyspnea on exertion (35%), fatigue (8%) or angina (22%). Conversely, only 9% of those <20 years of age had had such symptoms (4, 5).

As a consequence, we postulated that the small fistula did not contribute to the our patient's right heart dilatation producing a steal phenomenon.

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Hyperthyroidism as a rare cause of complete AV block

Tam AV blokun nadir bir nedeni olarak hipertiroidism

Hyperthyroidism commonly causes cardiovascular manifestations such as, sinus tachycardia, atrial fibrillation and atrial or ventricular premature complexes. However, complete atrioventricular (AV) block or other AV conduction defects, although being a rare entity in thyrotoxicosis, is an important condition which should be recognized (1).

A 28-year old woman was admitted to emergency department with nausea, vomiting and then sudden loss of consciousness. In the emergency department, on physical examination, blood pressure was 120/75 mmHg, heart rate was 52 beat/min. She had a systolic murmur of 1/6 degree on the mesocardiac area, and she had a 2-3 cm solitary palpable thyroid nodule. Electrocardiogram (ECG) revealed complete AV block (Fig. 1) with heart rate 52 beat/min. Chest X-ray was considered to be normal. Echocardiography revealed only moderate mitral valve insufficiency. We did not consider temporary transvenous pacemaker because of patient`s hemodynamic stability. In her medical history, she had been diagnosed as hyperthyroidism, and did not get any medical treatment within the two last years.

Complete blood count revealed a hemoglobin level of 10.8 gr/dl and hematocrit-32.5 g/dl. Thyroid function tests confirmed hyperthyroidism with a serum free triiodothyronine (FT3) level of 13,4 pg/ml (1,7-4,9), serum free thyroxin (FT4) level of 5,4 ng/dl (0,7-2,0) and thyrotropine (TSH) level of <0.01 (0,4-4,1) IU/dl. The other biochemical parameters including auto-antibodies belong to connective tissue disorders, angiotensin converting enzyme (ACE) activity for sarcoidosis, were normal. Anti-thyroid treatment (propylthiouracil, PTU) was started. Her rhythm resolved from complete AV block to second degree AV block (Mobitz type 2) on her fourth day of hospitalization (Fig. 2), to first degree AV block on the seventh day (Fig. 3) and to normal rhythm on the eighth day of hospitalization. Thyroid ultrasonography was performed and a 3 cm solid nodule on the right lobe and a 1 cm solitary nodule on the left lobe were observed.

Treatment of the AV block in hyperthyroidism is based on the treatment of the hyperthyroidic condition. Because, electrocardiographic findings returned to normal in the short time after antithyroid treatment in these patients. The palpitation in patient with hyperthyroidism is commonly due to tachyarrhythmia, however, it may also be due to bradyarrhythmia or complete AV block. ,-blocker treatment of palpitation due to bradyarrhythmia or complete AV block may be dangerous in patients with hyperthyroidism. Recognition that complete AV block can complicate thyrotoxicosis is important. That is why; electrocardiography should be taken before treatment of palpitation.

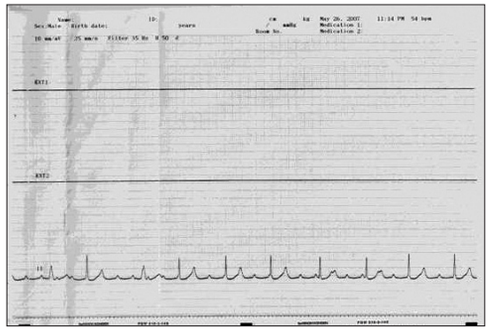

Figure 1. Complete AV block on the ECG performed at the time of submission
AV-atrioventricular, ECG-electrocardiogram

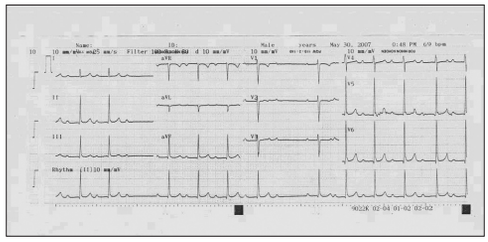

Figure 2. Mobitz type 2 on the ECG performed on the fourth day of hospitalization
ECG - electrocardiogram

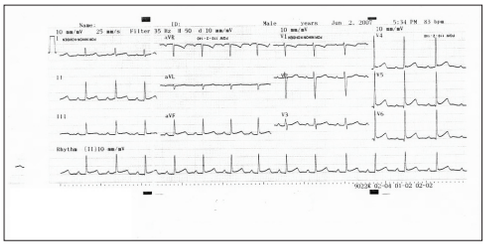

Figure 3. First degree AV block on the ECG performed on the seventh day of hospitalization
AV – atrioventricular, ECG - electrocardiogram

In conclusion, third degree heart block complicating hyperthyroidism is a rare situation. This situation may be a rare cause of palpitation in patients with hyperthyroidism. Therefore, before treatment, complete AV block should be suspected and evaluated with an ECG recording.

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A case of acute rheumatic fever presenting with syncope due to complete atrioventricular block

Tam atriyoventriküler blok nedeni ile senkopla başvuran akut romatizmal ateş vakası

Cases with acute rheumatic fever (ARF) are usually admitted to cardiology clinics withsigns and symptoms of poliartritis, pericarditis or heart failure. In these cases, the mostly observed electrocardiographic finding is the prolongation of PR interval (1). Rarely, second degree, third degree atrioventricular (AV) block and bundle branch blocks can also happen. In these cases with ARF; syncope, due to complete AV block is very rare and not frequently described. In the present study, we report a case with ARF admitted to our clinic with a history of syncope.

A 17 years old female patient was admitted to our emergency clinic with a history of syncope two or three hours before. She had an upper respiratory tract infection two weeks ago. She complained of bilateral ankle pain aggravated with motion. The electrocardiogram analysis revealed complete AV block (37 beat/min) and width of QRS complex was not more than 0.1 second (Fig. 1). Cardiac auscultation revealed the systolo-diastolic murmurs at the left sternal border and apex. Both bilateral ankles were tender but no redness or swelling were noted. Initial laboratory examination revealed a white blood cell count of 13,000/ml, sedimentation rate of 85 mm/h, C-reactive protein: 132 mg/dl, Antistreptolisin O (ASO): 870 Todd units (normal<200). Other biochemical parameters were normal. Echocardiographic examination was normal except minimal mitral regurgitation.

A diagnosis of ARF was made on the basis of carditis, arthralgia, high erythrocyte count,

sedimentation rate, high ASO and a history of upper respiratory tract infection A temporary pacemaker was implanted on the day of admittance. Penicillin G procaine 800000 twice a day and aspirin 100 mg/kg/day were ordered. Type 1 second degree AV block and then first- degree AV block (PR: 0,28 sec, rate72 beat/min) were observed on the second and third days of the admittance respectively. On the fifth day, there was a normal sinus rhythm with a normal PR interval (PR 0.20 sec, rate 88 beat/ min). Ankle pain and chest pain subsided after the first and second day of the therapy, respectively. Pericardial friction rub resolved completely on the third day. The temporary pacemaker was removed on the fourth day. She was discharged on the 12th day.

The most common manifestation of ARF is polyarthritis. A pain of pericarditis, new onset murmur, pericardial friction rub and heart failure symptoms can be observed as initial ARF symptoms. Cases with a complete AV block are rarely observed (2-4). Reasons of the conduction disturbance are not well known but are attributed, in part, to an increased vagal tone (5). It has been suggested that the site of vagal hypertonia may be in the vagal center of the medulla, but there is evidence that this excessive nerve endings of heart. Besides this, inflammation of the atrioventricular node and the His bundle may be cause of AV block.

This data showed that syncope could be the first or the most dominant clinical manifestation of ARF. Other clinical signs may be indistinct. The ARF should be remembered in young patients presenting with syncope and AV block.

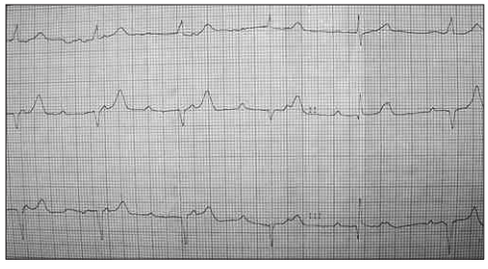

Figure 1. Complete atrioventricular block observed on the admission electrocardiography

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