LETTERS

Pulmonary tuberculosis in an adult patient with tetralogy of Fallot

Dear editor

Children with congenital heart disease (CHD) have an increased risk for repeated respiratory tract infections, especially pneumonia. It is uncertain if they are at increased risk of developing pulmonary tuberculosis (TB) and its complications during childhood[1].

A 20-year-old female patient was admitted to emergency clinic with complaints of dyspnea, cough, sputum, fever, and abdominal pain. Her complaints were present for two months and worsened in last two days.

Her past medical history revealed that she was diagnosed with CHD three years ago. On physical examination; she was cyanotic and oxygen saturation with pulse-oxymeter was 82%. Respiratory sounds were normal. 1-2/6 systolic ejection murmur was present on cardiac examination. Abdominal examination was normal.

Chest X-ray showed a boot-shaped heart shadow and cavitary infiltration on the left upper-zone. Trans-thoracic echocardiographic study revealed classic findings of tetralogy of Fallot (TOF) (pulmonary valve stenosis, right ventricular hypertrophy and enlargement, large ventriculer septal defect with an overriding aorta). Sputum examination for acid fast bacilli was positive. PPD test was measured as 23mm. Patient was treated with anti-Tbc regimen consisting of Isoniazid, Rifampin, Ethambutol, and Pyrazinamide. All drugs were given for 2 months, followed by a 4 months continuation phase of Isoniazid and Rifampin. Tuberculosis culture with drug susceptibility testing revealed non-drug resistant M. *tuberculosis*. After sixth month of routine follow-up, her symptoms and chest X-ray findings were recovered.

Congenital heart diseases are divided into two groups; cyanotic-CHD and acyanotic-CHD. Van der Merwe et al[1] reported that patients with acyanotic-CHD (increased or normal pulmonary blood flow) are susceptible to develop pulmonary TB. However, pulmonary TB was rarely reported in patients with TOF which is a cyanotic-CHD with decreased pulmonary blood flow[1,2]. Van der Merwe et al[1] explained this situation as reduced pulmonary blood flow and cyanosis in patients with cyanotic-CHD can inhibit growth of M. *tuberculosis* whereas increased pulmonary blood flow and normal pulmonary arterial saturation in patients with acyanotic-CHD can provide a suitable environment to growth.

We report this case as physicians who follow-up CHD patients especially with TOF should be aware of this rare association.

References

1. van der Merwe PL, Kalis N, Schaaf HS, Nel EH, Gie RP. Risk of pulmonary tuberculosis in children with congenital heart disease. Pediatr Cardiol. 1995; 16: 172-175.
2. Radović M, Ristić L, Stanković I, Petrović D. Rare congenital hearth disease as a cause of tuberculosis activation. Med Pregl. 2010; 63: 565-569.

Günay E[1], Günay S[1], Karakuş G[2], Şahin T[3], Görgün D[4], Tursun I[5], Dural C[6]

[1] Chest Diseases Clinic, Igdir State Hospital, Igdir, Turkey
[2] Cardiology Clinic, Igdir State Hospital, Igdir, Turkey
[3] Radiology, Igdir State Hospital, Igdir, Turkey
[4] Chest Disease Clinic, Nihat Kitapci Chest Diseases Hospital, Erzurum, Turkey
[5] Internal Medicine Clinic, Igdir State Hospital, Igdir, Turkey
[6] General Surgery Clinic, Igdir State Hospital, Igdir, Turkey

Key words: Congenital heart disease, cyanosis, tetralogy of Fallot, tuberculosis

Corresponding Author: Ersin Günay, MD Address: Igdir Devlet Hastanesi, 76200, Igdir, Turkey Phone: +905055023639 Fax: +902722463322 e-mail: ersingunay@gmail.com