What is Your Radiologic Diagnosis?

Radyolojik Tanınız Nedir?

Selin Ardalı Düzgün[1](İD), Tuncay Hazırolan[1](İD)

[1] *Department of Radiology, Hacettepe University School of Medicine, Ankara, Turkey*

A 16-year-old female patient presents to the pediatric emergency clinic with prolonged fever ongoing for 15 days and extensive macular rash on the body. It is found out that the patient has pain in both elbow and ankle joints and myalgia. Accompanying cough, nasal symptoms, diarrhea or abdominal pain is not present. Physical examination reveals an oral aphthous ulcer, strawberry tongue, and subconjunctival hemorrhage with a fever of 39.6°C.

Abdominal USG reveals hepatomegaly, paraceliac, paraaortic, and paracaval enlarged lymph nodes. Coronary, thoracic and abdominal computed tomography (CT) is performed with intravenous contrast material upon elevation of white blood cell count and new onset of hypotension during the follow-up. Coronary CT angiography (CTA) revealed fusiform aneurysmatic dilatations of the right coronary artery (RCA), left anterior descending artery (LAD) and circumflex artery (CX) (Figure 1, 2, white arrows) and saccular aneurism of the left anterior descending artery (Figure 2B, dashed arrow). What is your diagnosis according to the coronary CTA of the patient?

DIAGNOSIS: Kawasaki Disease

Immunosuppressive treatment with the diagnosis of Kawasaki disease was administered. Coronary CTA obtained 6 months later revealed that the diameter of the fusiform (B, white arrow) and saccular aneurysms (B, dashed arrow) of the left anterior descending artery have decreased and the aneu-
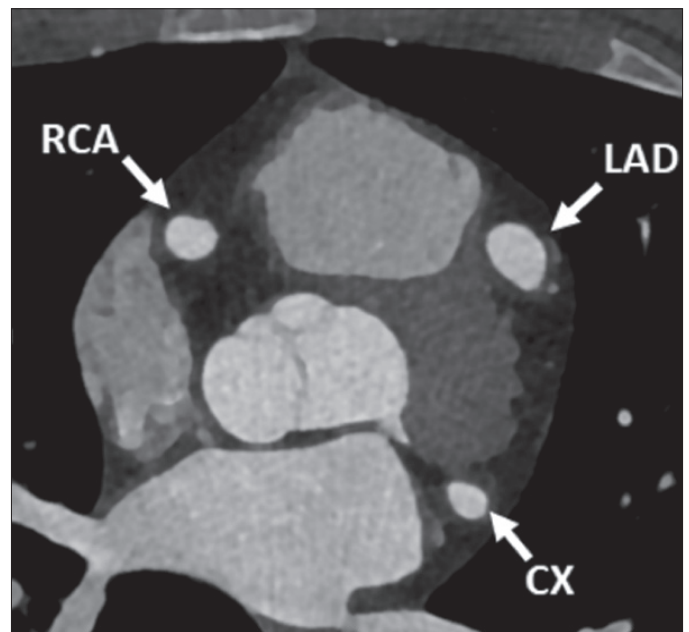

Figure 1. Axial post-contrast coronary CTA image.

rysm of the circumflex artery has nearly totally regressed (C, arrow) (Figure 3).

Short Discussion

Kawasaki disease is a systemic inflammatory disease involving medium-sized arteries, predominantly coronary ar-

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Correspondence Address/Yazışma Adresi

Selin Ardalı Düzgün

Hacettepe Üniversitesi Tıp Fakültesi,
Radyoloji Anabilim Dalı,
Ankara-Türkiye
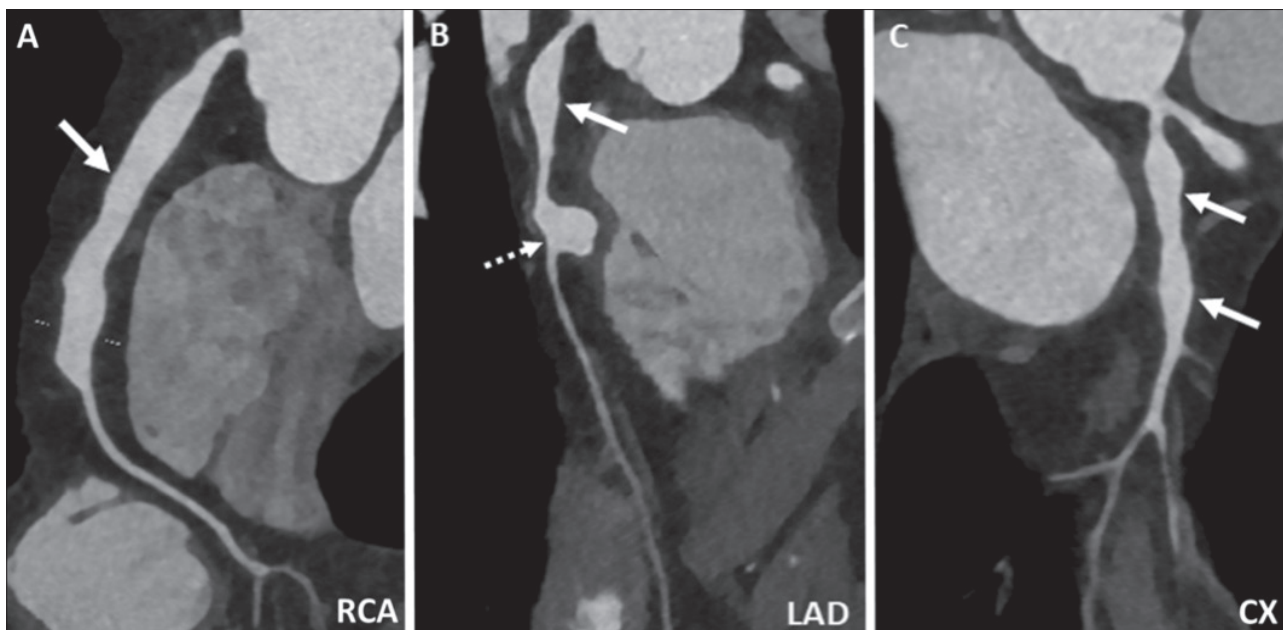
E-mail: selin.ardali@gmail.com

Figure 2. Coronary artery images obtained by multiplanar reconstruction.
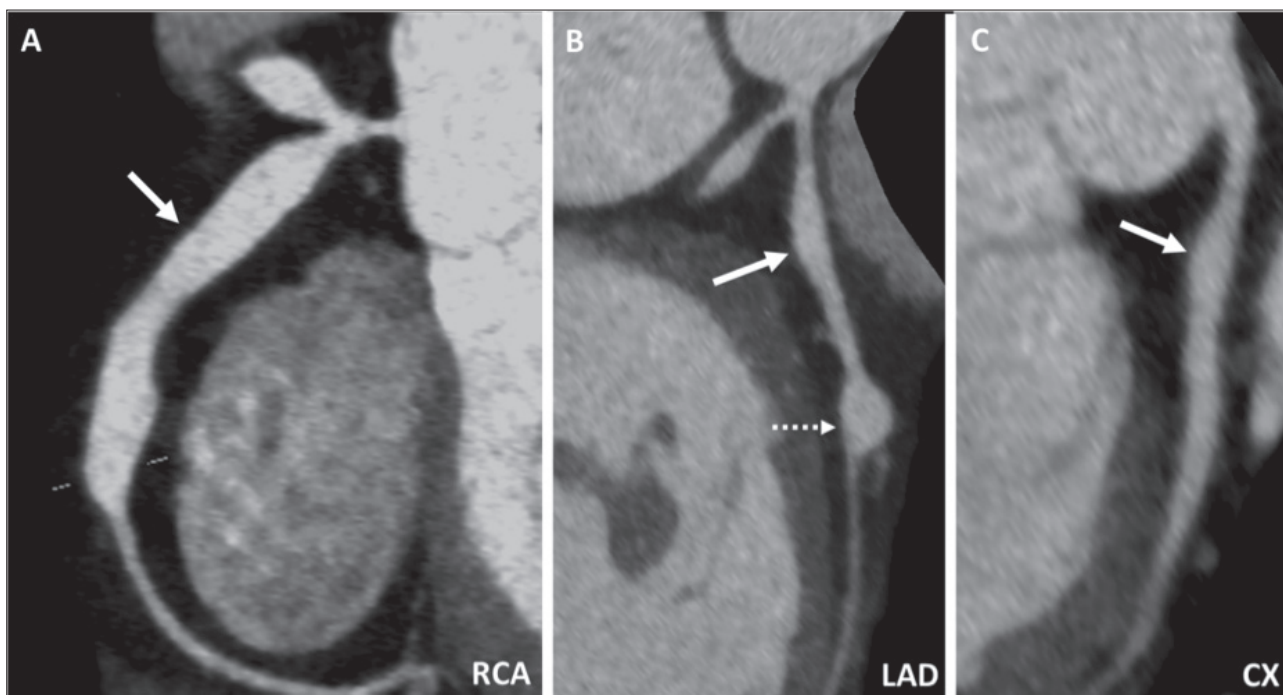

Figure 3. Follow-up coronary CTA after 6 months. Coronary artery images obtained by multiplanar reconstruction.

teries (1). Inflammatory changes of the coronary artery during the acute phase, lead to the weakening of the arterial wall and the development of ectasias and aneurysms in the subacute phase. Nearly 50% of coronary artery aneurisms spontaneously regress in 1-2 years (2). However, although coronary artery diameters return to normal, lesion recovery with fibrosis, endothelial dysfunction, thrombi formation, and myointimal proliferation may result in progressive coronary artery stenosis and early atherosclerosis (3-5). Echocardiography is the first

step diagnostic method, but its disadvantages include operator-dependency, not being able to optimally evaluate distal parts of the coronary arteries, and the fact that coronary artery evaluation becomes difficult as the child grows (5,6). The gold standard in diagnosis is invasive coronary angiography. However, advancements in multislice CT technology have enabled non-invasive evaluation of coronary arteries with lower-doses of radiation in a shorter time. The most frequently seen coronary CTA findings are ectasia of the coronary arteries, aneu-

rysms, thrombi or stenosis within the aneurysmatic segments. Leading morbidity and mortality causes of Kawasaki disease include coronary artery stenosis, thrombosed coronary artery aneurysms, and myocardial ischemia/infarction (5,6). Therefore, coronary imaging during the follow-up period is of vital importance in patient management and the prevention of possible complications.

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