Acute coronary syndrome due to dilated coronaropathy in a young patient with gouty arthritis

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Image

A 39-year-old male patient with no previously known cardiovascular risk factors was admitted with angina pectoris. His medical history was unremarkable except for gouty arthritis for 3 years. He did not smoke and there was no history of alcohol use. His medications included colchicine and allopurinol. Physical examination was unremarkable. Electrocardiography revealed sinus rhythm and 1–1.5 mm ST-segment depression in the inferior leads. The biochemistry panel was normal (LDL cholesterol: 88 mg/dl). Serum uric acid was 9.5 mg/dl (N: 2.1 – 7.6 mg/dl). Cardiac biomarkers were increased during follow-up. So, coronary angiography was attempted and showed diffuse ectatic coronary arteries with no significant stenosis (Fig. 1) and a prominent slow flow in the right coronary artery (RCA). The diameter of the RCA was 15 mm (Fig. 1a), the left anterior descending artery was 10 mm and the intermediate artery was 8 mm (Fig. 1b). The hospital course was uneventful and he was discharged on warfarin, aspirin, clopidogrel, beta-blocker and statin medications. He was asymptomatic at the one- and six-month follow-up visits

and also treadmill exercise testing was normal at the six-month visit.

Hyperuricaemia, which has long been associated with gout, leads to impaired endothelium-mediated vasodilation by pro-inflammatory and pro-atherogenic effects even in the absence of existing cardiovascular disease [1–3]. Endothelial dysfunction may underlie the causes of other aspects of hyperuricaemia-related cardiovascular diseases such as acute coronary syndrome, coronary ectasia and coronary slow flow [3]. Also uric acid plays an important role in the formation of free radicals, platelet adhesiveness, and aggregation as well as thrombus formation, which have been found to be important pathophysiological mechanisms in acute coronary syndrome [4–6]. Choi et al. [7] showed that among men without preexisting coronary heart disease, the increased mortality risk is primarily a result of an elevated risk of cardiovascular death, particularly from acute coronary syndrome. Another study based on the Multiple Risk Factor Intervention Trial (MRFIT) reported that gout was associated with a 26 % increased risk of acute myocardial infarction (MI) [8]. The current findings provide clear evidence for aggressive management of cardiovascular risk factors in patients with gout.

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Fig. 1 Coronary angiography showing a diffusely ectatic RCA with a maximum diameter of 15 mm (a) and ectasia in left coronary system (b)

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