Editöre Mektup — Letter to the Editor

Intercoronary continuity between the right and circumflex coronary arteries causing myocardial ischemia

Dear Editor,

I read an interesting case about intercoronary continuity (IC) recently published in your journal.[1] I thank the authors for presenting this rare coronary variation. There are some points I would like to comment on concerning this case.

The connection between coronary arteries could be through collateral coronary circulation or an IC. The latter is defined as a direct continuity between the main coronary arteries and a very rare variant form of coronary circulation. The authors in this case report described this anomaly as "a large anastomotic connection between normal coronary arteries." It could be understood that this variation is only seen between normal coronary arteries. However, this variation might be seen in patients with or without coronary narrowing.[2] The authors pointed out that the flow direction was bidirectional. However, in previous cases, the direction of the flow was reported as bidirectional or unidirectional.[1]

In this presented case, ischemia was shown on myocardial perfusion imaging before coronary angiography and the authors concluded that this variation might have caused ischemia since there was no significant stenosis on coronary angiogram. The direction of the flow in IC is either bidirectional or unidirectional, but the flow from the right to the left coronary artery always exists. Hence, it is possible that an IC may cause ischemia through coronary steal phenomenon.[3] However, I believe that, before reaching this conclusion, other possible causes should be ruled out first. In a study, 27% of patients with angina had positive myocardial perfusion scintigraphy and normal findings on coronary angiography.[4] The authors did not explain how they ruled out cardiac syndrome X and other possible causes of chest pain. Moreover, the patient in this case had the complaint of chest pain for three months. This anomaly is congenital and the reason why the patient had chest pain for the past three months is unclear.

Even if other possible diagnoses including cardiac syndrome X had been excluded, then the authors should have mentioned how they became sure that ischemia resolved after starting medical therapy. They did not perform repeat scintigraphy or other tests. It is well-known that psychological factors may play role in developing or becoming free of symptoms.

In conclusion, detecting this anomaly on coronary angiography may not be sufficient to conclude that this anomaly is related to chest pain or ischemia.

Sincerely,

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The authors' reply

Dear Editor,

We thank our colleague for his letter to the editor regarding our case presentation. As the author states, intercoronary continuity (ICC) may be seen with or without coronary narrowing and the direction of flow may be unidirectional or bidirectional. We fully

agree with the author for his arguments that other possible causes should be ruled out and 27% of the patients with angina had positive scintigraphic results. Positive scintigraphic results with normal coronary arteries may occur in patients with hypertension, microvascular dysfunction, left bundle branch block, cardiomyopathy, mitral valve prolapse, and mitral regurgitation.[1-3] As the author mentioned, cardiac syndrome X may also be associated with angina and positive scintigraphic test results. Cardiac syndrome X is generally seen in patients with abnormal glucose tolerance, insulin resistance, family history of coronary artery disease, cigarette smoking, and hypercholesterolemia.[4] However, our patient had no cardiovascular risk factor and there was not any other cause that might lead to microvascular dysfunction, such as metabolic syndrome. Breast and diaphragm attenuation may also lead to false positive results. However, in our case, perfusion defects were in the basal region of the inferior wall and the inferoseptal wall was not compatible with tissue attenuation. Thus, we investigated all possible causes mentioned above in our patient. Why the patient had been symptomatic for the past three months was unclear. This could have resulted from several transient factors such as emotional stress. We started anti-ischemic therapy with aspirin, metoprolol, and isosorbide mononitrate, and the symptoms of the patient resolved. The author is right, if we had repeated scintigraphy, we could have stated more accurately that coronary ischemia was associated with ICC.

Thus, taking into account the following facts, we concluded that ICC could be related to myocardial ischemia: the patient had typical chest pain and had no cardiovascular risk factors; other causes were excluded that might lead to positive scintigraphic results with normal coronary anatomy; the regions of perfusion defects were not compatible with tissue attenuation; and the symptoms were relieved after anti-ischemic therapy.

Sincerely,

On behalf of the authors,

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