A suspicion of past history of Kawasaki disease in an adult patient with acute myocardial ischemia.

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【 Background 】

Kawasaki disease is an acute febrile illness with unknown cause in childhood as reported in 1967 (50 years ago). The number of patients is gradually increasing. Coronary artery aneurysm is the most important complication. Kawasaki disease is suffered by 5% of the adult patients with coronary artery aneurysm. Acute myocardial infarction (AMI) occurs when the blood flow in the coronary artery aneurysm is reduced and a thrombus is formed. Giant coronary artery aneurysm may cause myocardial ischemia with or without stenosis.

Learning point: Note that some adult AMI patients are suspected of Kawasaki disease.

【 Case Report 】

A 58-year-old man had chest pain after doing exercise for several minutes from about two weeks ago. He got severe pain. He had no family history of atherosclerotic disease and associated risk factors other than history of smoking. Past history was shown below.

Table 1. Past history.

Disease	Treatment
Rheumatoid arthritis (7 year ago)	Immunosuppressant
Pleurisy suspected (5 year ago)	Enhanced computed tomography

Demographic data on admission was shown below.

Table 2. Demographic data on admission.

Physical examination	BP 120/60mmHg, HR 70 /min, SpO2 100%
Laboratory data	WBC 11040↑, Troponin-I 533↑, BNP 250↑
Electrocardiogram	ST↑(I, aVL, V2-6), ST↓(II , III , aVF)
Echocardiogram	EF 38.3%↓, asynergy(+): LAD-LCX lesions

BP: Blood Pressure, HR: Heart Rate, EF: Ejection FractionAngina, LAD: Left anterior descending artery, LCX: Left circumflex artery

Suspected of AMI, emergency percutaneous coronary intervention (PCI) was performed.

Figure 1. Coronary angiography of the left coronary artery.

- (A)Total occlusion of the left main trunk was noted.
(B)Reflux flow was obtained, but the coronary artery in the obstruction was expanded, forming an aneurysm and a large amount of thrombus was confirmed.
(C)Calcification was found at the limbus of the knob in fluoroscopy.
↓
Kawasaki disease was suspected.

Since the coronary artery was also very large, it seemed difficult to place a stent.
There was a lot of thrombus and a high risk of occlusion even if recirculation was obtained.
DOA 3μg/kg/min, intra aortic balloon pumping (IABP) were started.
↓
Emergency coronary artery bypass grafting (CABG)

【 Summary 】

When Kawasaki disease was suspected during PCI, the hemodynamics were worsened, IABP was inserted.

Figure 2. Anesthesia record of CABG.

Before cardiopulmonary bypass (CPB), norepinephrine (0.1-0.2 μg/kg/min) was administered. After CPB, norepinephrine (0.2-0.5 μg/kg/min) and epinephrine (0-0.2μg/kg/min) were used.

Figure 3. Postoperative coronary computed tomography (CT).
Emergency CABG was performed using the left internal thoracic artery (LITA), right internal thoracic artery (RITA), and the gastroepiploic artery (GEA).

Figure 4. Past enhanced CT (5 years ago).
When observed once again, past enhanced CT (5 years ago) showed a 15mm round mass; coronary artery aneurysm with calcification.

【 Discussion 】

- In adult patients with Kawasaki disease, the past history is often unclear, and no history was observed in this case.
➤ 1. Five years ago, did this patient really suffer from pleurisy ? (or was it an angina?)
⇒ If we had assessed enhanced CT more carefully, at least we could have decided to treat him medically with a low dose of aspirin and followed him carefully with CT.
➤ 2. Was PCI appropriate?
⇒If we had assessed enhanced CT (past or this time) firstly, CABG would have been considered from the beginning instead of PCI.

【 Conclusions 】

We reported a suspicion of past history of Kawasaki disease in an adult patient with acute myocardial ischemia.
CT is useful way for diagnosis and treatment of coronary artery aneurysm with calcification in Kawasaki disease.