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CE - MEDICAL ILLUSTRATION

Type A intramural hematoma and hemopericardium secondary to penetrating atherosclerotic ulcer

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A 65-year-old woman presented with syncope after having breakfast. She reported dizziness and blackout like symptoms before the syncope episode; however, the neurologic examination showed no evidence of hemiplegia or other neurologic residue. The brain computed tomography (CT scan) revealed no evidence of intracranial hemorrhage or stroke lesion. The patient collapsed with presentation of shock and altered consciousness 2 h after arriving at the emergency department. The physical examination revealed hypotension and engorged jugular veins. Emergent whole-body CT scan was performed, and the noncontrast-enhanced CT scan showed a high attenuation crescent sign in the ascending aortic wall consistent with an intramural hematoma (IMH), and filling of the pericardium consistent with an intramural hemopericardium (Fig. 1a). Contrast-enhanced CT scan demonstrated low attenuation of the ascending aortic wall and a penetrating atherosclerotic ulcer (PAU) in the aortic root (Fig. 1b). The patient received emergent ascending aorta grafting surgery. The postoperative period was uneventful, and the patient recovered well.

IMH with PAU of aorta are included in the acute aortic syndromes as aortic dissection variants. IMH and aortic dissection share similar risk factors, and are classified the same way as Stanford type A and type B. Ascending aorta IMH may cause aortic regurgitation, hemopericardium or aortic rupture. Predictors of adverse outcomes include syncope, enlarged aorta diameter (>55 mm) and increased hematoma thickness (>16 mm) [1]. PAU often has a variable degree of IMH. Patients with type A IMH with PAU should have early surgery, if possible, since they are at high risk for dissection, rupture, aortic regurgitation, cardiac tamponade, or myocardial infarction. PAU accounts for 2–7 % of symptomatic patients with suspected acute aortic syndrome, and an IMH can be identified in approximately 6 % of aortic dissections [2, 3]. Noncontrast enhanced CT scan with a high attenuation crescent sign

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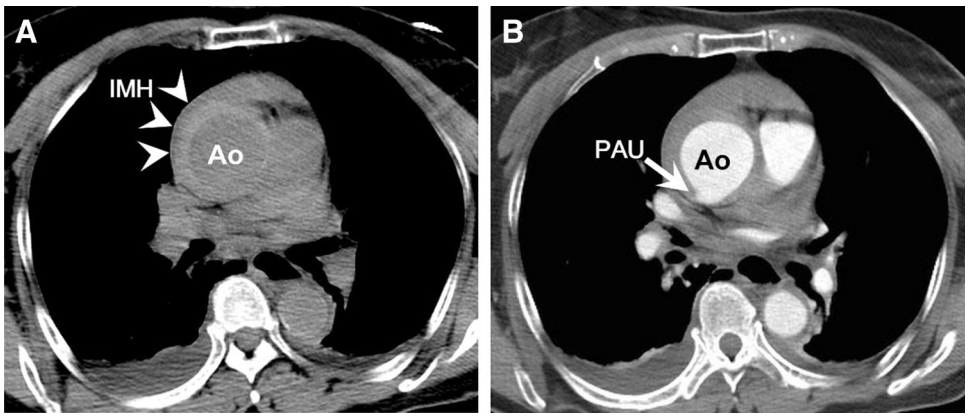

Fig. 1 **a** High attenuation crescent sign of intramural hematoma (IMH) (*arrow head*) was seen in unenhanced CT image. **b** A penetrating atherosclerotic ulcer (PAU) was found in contrast-enhanced CT angiography (*arrow*). *Ao* aorta

provides a tool for differential diagnosis of an acute aortic syndrome as well as prognostic information [1, 4].

Conflict of interest None.

Statement of human and animal rights All procedures followed were in accordance with the ethical standards of the responsible committees (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2008.

Informed consent Informed consent was obtained from the participant for being included in this study according to Ethics Committees requirements.

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