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eComment. Catheter-induced acute aortic syndrome

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We read with great interest the report by Attia *et al.* [1]. The authors presented the case of a 75-year old patient with an iatrogenic intramural collection of contrast agent into the ascending aortic wall during cardiac catheterization. The patient was managed conservatively, and the follow-up at three months was unremarkable. However, we believe that there are some issues that need to be addressed.

Acute aortic dissection is the most feared complication of cardiac catheterization, it occurs in up to 0.02% of diagnostic catheterizations and 0.07% of percutaneous coronary interventions [2]. In the majority of cases, there is an intimal tear in the vicinity of the ostium of the coronary artery and subsequently a bidirectional dissection, an antegrade dissection of the coronary artery and retrograde dissection of the ascending aorta. Risk factors for catheter-induced aortic dissection include: left main coronary artery intubation, use of special catheters (Amplatz-shaped

catheters), aggressive handling of rigid guide wires, catheterization during acute myocardial infarction, vigorous contrast injections and profound cannulation of the catheter into the coronary ostia [3].

The management and outcome of catheter-induced acute aortic dissection depend on the status of the distal flow in the coronary artery and extent of the propagation of the dissection. Stenting of the coronary ostium to seal the primary entry tear has been reported as the best treatment option, thus allowing the aortic dissection to heal spontaneously [4]. However, the indications for surgical repair of the ascending aorta in otherwise clinically stable patients without malperfusion, tamponade or significant aortic regurgitation have not been clearly defined, with some operators adopting a conservative approach, and others advocating an early surgical intervention. Although conservative treatment of uncomplicated retrograde dissection with blood pressure control, analgesics, and close observation has been recommended, especially in high-risk patients or those with previous cardiac surgery [5]. The progression of these dissections is unpredictable and can be life-threatening.

We have only one question for Attia *et al.* regarding the definition of intramural haematoma in this setting. How could the authors explain the possible mechanism of the intramural collection caused by contrast extravasation without an intimal tear? We think that this image is the result of stasis of contrast agent within the false lumen, and it represents a localized aortic dissection with residual contrast within the aortic tunica media passing through an intimal tear without an exit tear.

Conflict of interest: none declared

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