



## In reply: Additional insights regarding aortic intramural hematoma

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We thank Sahu *et al.* for their interest in our article.<sup>1</sup> The descriptive outline of an aortic intramural hematoma (IMH) they provide points to additional nuances in our own described case.<sup>2</sup>

The finding of an overlying ulcer associated with an IMH highlights the uncertainty as to whether the ulcer is the cause or the result of the IMH. The clinical setting, site of aortic involvement, and information obtained from multimodal imaging provide some clues to the answer. Our case revealed an ulcer in the distal aortic arch in association with an IMH in a patient with a clear history of atherosclerotic disease (i.e., both coronary and peripheral vascular disease) suggesting a penetrating aortic ulcer (PAU) as the cause of IMH. However, Sahu *et al.* describe ulcer-like projections (ULPs) as a potential differential diagnosis in an IMH setting and highlight that the visualisation of ULPs in the ascending aorta may be a consequence of the hematoma expansion itself.

Despite the echocardiographic finding of an ulcer in the proximal aorta (which itself is an uncommon site for PAUs), the possibility of a microtear after a recent coronary intervention and the presence of contrast-filled pouchings into a thickened aortic wall on the initial computed tomography (CT) scan favoured the diagnosis of PAU with an IMH. In contrast, ULPs are usually absent on an initial CT scan and lack any atherosclerotic association.

It is also important to consider the often progressive course of these aortic mixed lesions such as PAU with IMH<sup>3</sup> or ULPs with IMH,<sup>4</sup> which points to the importance of carefully characterizing these lesions and stratifying their related risk. For instance, a high risk of rupture is described with the rather rare incidence of PAUs in the aortic arch,<sup>5</sup> necessitating an urgent surgical intervention, as in the index case.

To conclude, an aortic ulcer is frequently appreciated in the setting of non-communicating dissections and advanced imaging modalities can allow for a better understanding of the causative and prognostic implications.

**Conflicts of interest** None declared.

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