

The Reply



Dr. Jolobe, in his comments on our case study,¹ is quite right in highlighting 2 pertinent examples of the potentially severe iatrogenic patient harm that may result from erroneous treatment of pauci-symptomatic acute type A aortic dissection masquerading and possibly misdiagnosed as an acute vascular event, be it ischemic stroke, acute myocardial infarction, or pulmonary thromboembolism.

Although only 21/446 (4.7%) of the patients in the International Registry of Acute Aortic Dissection original report did not report any pain on presentation, these patients were already at a substantially increased risk of adverse outcomes even without being given a harmful treatment, by the significant fivefold delay in diagnosis and appropriate treatment (43.34 hours from presentation to operating room vs 8.18 hours in patients with any type of pain, $P < 0.001$).² A recent retrospective single-center study of 164 patients reported, not surprisingly, that such delays were associated with increased overall mortality of up to 66.7% vs 20% of the patients diagnosed on presentation ($P < 0.004$).³ However, the marked variability of the clinical presentation of aortic dissections may lead to diagnostic delays even when pain is present, for example, when pain onset is not abrupt or when fever is present.² Thus, the caveat raised by Dr. Jolobe is important, but needs to be viewed in a broader context of the adverse patient outcomes associated with missed or delayed diagnosis of aortic dissections. These, unfortunately, are not infrequent, and acute aortic dissections are among the top 5 diagnoses most commonly involved in malpractice claims. A literature review of diagnostic errors and harm rates from Johns Hopkins recently reported a point estimate of 27.9% (false-negative rates) for missed/delayed diagnosis of aortic aneurysm and dissection, topping the list in both error rate and severity-

weighted serious harm rate of the 5 vascular events identified as major contributors to serious misdiagnosis-related harms.⁴ Several factors have been associated with failure to timely diagnose acute aortic dissection in the emergency department, including walk-in arrival, associated myocardial ischemia, absence of a widened mediastinum on chest radiography, absence of a pulse deficit, and fewer imaging studies.⁵ Thus, there is no perfect method to avoid misdiagnosis other than to always bear in mind the diagnosis of acute aortic dissection and the extreme variability of its presentation, resorting to early imaging studies when even partial “alarm” flags are identified.

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