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## Commentary: Evoke the unlikely, not too late

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When speaking of *Aspergillus* spp (with *Aspergillus fumigatus* and *Aspergillus flavus* being responsible of approximately 90% of all clinically evident human contaminations), cardiothoracic surgeons usually think of invasive, prognostically ominous infections most frequently seen in immunocompromised patients. The case reported by Leow and colleagues<sup>1</sup> in this issue of the *Journal* embodies the menace embodied by such a rare entity and its capacity to occur in even immunocompetent hosts. Airborne contamination from these ubiquitous fungal spores represents the elective mode for development of the infection; this case also demonstrates the predilection of *Aspergillus* to the aortic tissue, the damage induced by surgery (eg, aortotomy, proximal bypass graft anastomosis, cannulation), and its exposure to contaminated air, likely representing the conditions for homing. These features are concordant with the previously largest published series,<sup>2</sup> in which *Aspergillus* aortitis occurred in patients who were immunocompetent preoperatively and had not received previous corticosteroid treatment and evolved without involvement of native or prosthetic heart valves. Conversely, systemic fungal dissemination and mycotic emboli are more likely. Based on the present case, hemoptysis due to pseudoaneurysm erosion into the lung can be added to the list of the possible clinical manifestations.

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### CENTRAL MESSAGE

The clinician's work can be frustrating with such entities as *Aspergillus* aortitis following cardiac surgery. These are not always thought of, yet timeliness of diagnosis can (hopefully) be life-saving.

Based on the above elements, one regretfully cannot suggest shared baseline patient characteristics leading to increased postoperative likelihood of this rare aortitis, perhaps except a previous history of pulmonary aspergilloma or known airway colonization by *Aspergillus* spp fungi. Therefore, it is difficult to propose specific pharmacologic prophylaxis. Then our main preventive weapon might be to adopt the optimal environmental strategies with respect to the ventilation system and high-efficiency particulate air filtering in the operating rooms. It is also of paramount importance to avoid performing cardiac operations in the event of concomitant construction work adjacent to the surgical wards.

The present case also underlines the anatomic aggressiveness of *Aspergillus*-related aortic pseudoaneurysm, as it evolved to fatal rupture in less than 2 months after the index surgery. This accelerated progression is a feature truly uncommon in “mechanical” or even nonfungal infectious anastomotic pseudoaneurysms that we are accustomed to seeing and treating in aortic surgery and again supports the major importance of early diagnosis, which can truly have life-saving value. Here chest computed tomography scan was the pivotal examination allowing institution of the appropriate management algorithm; echocardiography also can be useful in raising the suspicion of ascending aortic lesion.

*Aspergillus* aortitis should be kept in mind as a possible cause of early ascending aortic pseudoaneurysm or of unexplained fever after cardiac surgery, similar to another rare but prognostically unfavorable cause: *Mycobacterium chimaera* endocarditis.<sup>3</sup> Both have a iatrogenic origin, are typically seen in cardiac surgery patients, and require early diagnosis for successful treatment. Both necessitate dedicated mitigation strategies and might be the object of professional liability disputes should these strategies be inadequate. In conclusion, although *Aspergillus* aortitis is not unknown to our literature, the current illustrative

case is very useful as a memory aid, given the difficulty in suspecting and detecting this disease in a timely fashion.

### References

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