Pain in the groin: mycotic aneurysm after transcatheter aortic valve replacement

Austin Jacobs,¹ Sebastian Ochoa,¹ Fady Hannah-Shmouni²

¹Department of Medicine, MedStar Georgetown University Hospital, Washington, District of Columbia, USA

²Clinical Biochemical Genetics, The Hospital for Sick Children, University of Toronto, Toronto, Ontario, Canada

Correspondence to
Dr Austin Jacobs,
austin.jacobs@gunet.
georgetown.edu

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DESCRIPTION

An 88-year-old man with controlled hypertension, coronary artery disease and atrial fibrillation on warfarin therapy presented to the emergency department for evaluation of a right groin pain and fall. He had undergone a transcatheter aortic valve replacement (TAVR) for severe aortic stenosis a month prior to presentation. The procedure was complicated by a cerebrovascular accident. He was febrile and tachycardic, with a right-sided ptosis, facial droop and a pulsatile mass in the right groin

Figure 1 New right common femoral mycotic aneurysm (arrow) confirmed on abdominal CT.

Figure 2 New right common femoral mycotic aneurysm (arrow) confirmed on abdominal CT.

Figure 3 New right common femoral mycotic aneurysm (arrow) confirmed on ultrasound.

(access site during TAVR). Laboratory evaluation revealed mild leucocytosis ($12, 4.23\text{--}9.07 \times 10^9/\text{L}$). A new right common femoral mycotic aneurysm was confirmed on abdominal CT (figures 1 and 2) and ultrasound (figure 3). Within 12 hours, blood cultures grew gram-negative rods, later speciated to *Pseudomonas aeruginosa*. He was started on empiric vancomycin and piperacillin–tazobactam for suspected sepsis. Evaluation for endocarditis with a transoesophageal echocardiogram did not reveal valvular vegetations. He underwent an excision of the right femoral mycotic aneurysm with a sartorius muscle flap. Pathology revealed an inflamed pseudoaneurysm with atherosclerosis. Ceftazidime was successfully continued for 6 weeks.

Mycotic aneurysm is an abnormal focal arterial dilation due to bacteraemia or septic embolisation.¹ The most commonly affected sites are the femoral artery (38%) and abdominal aorta (31%).^{2 3} Mycotic aneurysm causes degeneration of the arterial wall from inflammation, which carries a high risk of rupture and mortality.¹ The predominant organisms in mycotic aneurysms are *Staphylococcus*

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aureus and *Salmonella* species. Complications of TAVR include vascular access site morbidity (bleeding, vessel perforation, infection), ventricular wall perforation, valvular complications, arrhythmias, cerebrovascular accident and myocardial infarction. To the best of our knowledge, this is the first report of a *P. aeruginosa* aneurysm following TAVR, possibly due to bacterial inoculation during instrumentation.

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Learning points

- Complications of transcatheter aortic valve replacement include vascular access site morbidity (bleeding, vessel perforation, infection), ventricular wall perforation, valvular complications, arrhythmias, cerebrovascular accident and myocardial infarction.
- Mycotic aneurysm (aneurysms arising from infection of the arterial wall) causes degeneration of the arterial wall from inflammation associated with infection from either bacteraemia or septic embolisation.

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