Letter to the Editor

Antiplatelet therapy after bioprosthetic aortic valve replacement is unnecessary in patients without thromboembolic risk

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We read with interest the article titled ‘Antiplatelet therapy early after bioprosthetic aortic valve replacement is unnecessary in patients without thromboembolic risk factors’ [1]. The authors conducted a retrospective non-randomised observational study to examine antiplatelet therapy after bioprosthetic aortic valve replacement in 288 patients without thromboembolic risk factors. They conclude that there is no apparent benefit to early antiplatelet therapy in this cohort of patients.

We concur with the authors that guidelines are confusing and the evidence is weak. We have recently reviewed the literature on antithrombotic therapy following bioprosthetic aortic valve replacement [2]. There are only two prospective randomised trials comparing an antiplatelet agent with a vitamin K antagonist [3,4] and both showed equivalence.

The incidence of thromboembolism following bioprosthetic AVR is between 0.9% and 2.2% per patient year. For an event rate of 2% and a risk ratio of 1.2, approximately 28,000 patients will be required and for a risk ratio of 2.0, 1527 patients will be required to identify a significant difference between the groups. Therefore, it is not surprising that Brueck and colleagues did not find a reduction in cerebral thromboembolism comparing their groups over a 12-month period.

We agree that a three-arm trial comparing aspirin, warfarin and no antithrombotic treatment is desirable. However, our own survey of UK cardiothoracic consultants showed that most were in favour of a two-arm trial. Surgeons appeared reluctant to offer no treatment since there are no guidelines advocating this approach.

Similarly, there are no studies specifically examining the safety of omitting warfarin and for this reason guidelines remain weighted in favour of early anticoagulation, albeit for 3 months. There are also no studies supporting aspirin therapy to prevent pannus formation. Therefore, it is timely to carry out a randomised controlled trial of patients undergoing tissue aortic valve replacement, comparing warfarin, aspirin and no treatment.

References


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Letter to the Editor

Endoluminal stenting of thoracic aorta mycotic aneurysms

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We read with interest the paper by Kpodonu et al. in which they present their single case experience of 33-month follow up of a patient who had undergone endovascular stent graft management of a descending thoracic mycotic aneurysm [1]. We would like to congratulate the authors for their successful result in this controversial topic of vascular surgery despite their single case.

Endoluminal stenting is frequently applied to the aneurysms at critical segments of the aorta, such as thoracic...
and arch levels and can even be used for the treatment of mycotic aneurysms, with the increasing experience and refinements in the graft technology [2]. However, graft infection still accounts for one of the major risks in the follow up, although the procedure promises very good early results [1—4].

At our institution, two patients who were considered unsuitable for surgical treatment due to multiple comorbidity factors, had undergone endoluminal stent graft treatment of mycotic saccular aneurysms at the aortic arch. Unfortunately, one of the patients died 1 week postoperatively due to intracerebral bleeding. On the other hand, the second patient who was on chemotherapy for acute lymphoblastic leukemia, additionally had ankylosing spondilitis and chronic hepatitis B infection. He had also been uneventful in the early postoperative period [2] as well as for a postoperative period of 18 months until he presented with rupture of the descending aorta from the region at the end of the stent graft (Suppl. 1). He had undergone another successful stent graft implantation for the treatment of the aortic rupture (Suppl. 2) and was discharged to the hematology clinic with a lifelong antibiotic regimen recommendation with co-trimoxazole. He had been followed asymptomatic for another 1-year period but died due to complications of acute lymphoblastic leukemia [4]. Parkinson et al. [3] in their recent paper presented a similar case with peripheral seeding of mycotic aneurysm from an infected aortic stent graft. Their patient had been asymptomatic for 3.5 years following initial treatment [3].

In conclusion, close monitoring of the patients who were treated for mycotic aneurysms with endoluminal measures is mandatory because they may frequently present with future aneurysms and ruptures at various segments of arterial tree. Additionally, since prophylactic life-long antibiotic treatment seems to be protective to a certain degree against future complications of mycotic aneurysms, in order to reach a consensus about postoperative treatment strategy it would be helpful to determine the best antibiotics if every author could present their experiences and recommendations about prescribed antibiotics for such cases.

References


I would like to thank Ugurlucan and Alpagut [1] for their valuable comments regarding the management of thoracic mycotic aneurysms using endovascular technology. Endoluminal stent grafting of the aorta has increasingly been applied to treat various aortic pathologies including mycotic aneurysms. Results of open surgical repair consisting of intensive antibiotic administration, extensive excision and debridement of the infected field associated with extranatomic or in situ prosthetic bypass grafting are associated with mortality rates ranging from 5% to 75% [2,3]. Endovascular approach to mycotic aneurysm avoids the extensive excision and debridement of the infected field. The potential benefit of the endovascular approach is thus compared to the obvious risk of recurrence of the infection. We have had experience with the management of two patients with suspected mycotic aneurysms. In both cases an identifiable organism was cultured from the blood stream. Antibiotics must be tailored to the offending organism and preferably blood cultures should be negative before planning to treat such patients with an endoluminal graft. Some authors have suggested presoaking the graft in an antibiotic solution before deploying an endoluminal graft to exclude a suspected mycotic aneurysm. An extended zone proximal and distal to the aortic wall abnormality should be chosen because of the likelihood of more extended arterial lesions. The duration of antibiotic coverage remains controversial. The duration of antibiotic therapy remains debatable as some authors have used a short course of antibiotics ranging from 6 weeks to 6 months with other authors using life-long antibiotics [4,5]. At our institution we are of the belief that antibiotic coverage should be prioritized to the patient’s general condition, blood culture results, sedimentation rate, presence or absence of fevers and leucocytosis. Although in both our patients who were treated with a stent graft for a mycotic aneurysm we had recommended life-long antibiotics, the patients stopped their antibiotics after 6 weeks. We continuously follow patients with mycotic aneurysms receiving an endoluminal graft clinically to detect any sign of reinfection and radiologically with serial CT scans to determine regression of the mycotic aneurysm with stabilization of the thoracic aorta.

In conclusion, life-long surveillance is necessary in patients with mycotic aneurysms treated with an endoluminal graft.

References