

## Commentary on ‘Outcomes of Infected Abdominal Grafts Managed with Antimicrobial Therapy and Graft Retention in an Unselected Cohort’

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In this paper, Maze et al. report a series of 18 patients treated for aortic graft infection over a period of 11 years.<sup>1</sup> Only one of them, presenting with an aortoduodenal fistula, was treated surgically as a first intention, while the other 17 were treated conservatively, despite the fact that 11/18 (61%) showed signs of systemic infection.

The only patient initially treated surgically with complete graft removal remained alive 128 months after treatment. Of the 17 patients treated with antimicrobial therapy and graft retention, there was a recurrence of infection in almost 60% (10/17). A quarter of these patients died as a result of the first relapse episode. Surgery was performed in 35% (6/17) of patients initially treated conservatively. Of note also is that for patients treated by non-operative management the overall survival rate was 1/9.

Although this article aimed to investigate the assumption that conservative management may be an alternative to graft removal with or without revascularization, there are several issues to be considered before reaching a conclusion from the data presented.

1. The study is retrospective, with a limited number of cases.
2. There is a strong bias toward conservative treatment in the selection of patients (only 1 of 18 treated surgically).
3. The evaluation of the surgical risk was strongly subjective.

Thus, there are not sufficient data to change the common recommendation of complete graft excision and revascularization with infection-resistant material in the case of vascular graft infections. Only patients with an infected aortic graft without signs of hemorrhage or anastomosis disruption, and with a truly prohibitive surgical risk (severe cardiac or respiratory failure) can be treated conservatively, with a high risk of relapse with adjunctive complications. The presence of hostile abdomen — patients with previous aortic surgery often have a difficult access — or signs of sepsis should not be advocated as a reason to refuse surgical treatment.

In this paper, the real outcome of patients treated conservatively is somewhat confused by the fact that one third of them (35%) subsequently underwent surgical treatment. While the authors claim that acceptable results were achieved in term of mortality and morbidity, the data

presented show only a postponement of the necessity of a definitive surgical intervention, as confirmed by several studies in the literature.

The authors also claim that conservative treatment may give time to ameliorate the condition of the patient and allow safer surgical procedures. Although this may be the case in some instances of patients admitted in a very critical condition because of previous misdiagnosis or inappropriate treatment, in other instances unjustified delay in graft excision may further deteriorate the clinical scenario.

Thus, the real conclusion is that only complete excision of the prosthetic material may be curative in the case of infection. Other authors have suggested that conservative treatment may be compatible with long-term survival and absence of infection recurrence; however, this option should be accompanied by aggressive debridement and drainage, and be performed only in patients with a real prohibitive risk, since it is not recommended to widely adopt this approach.<sup>2,3</sup>

Also, a clear antibiotic protocol on the basis of type of organism and graft material should be established for the treatment of patients in whom surgery is contraindicated. Although there is no information in the literature about different responses of the different graft materials to antibiotic treatment, it is reasonable to assume that long-term results may vary according to the prosthetic fabric.

In the report by Maze et al., all organisms cultured during relapses were different from the original isolates.<sup>1</sup> This means that antibiotic therapy may be effective in eradicating the original cause of infection, but also that other microorganisms may remain undetected after the first work-up.

In summary, despite the fact that conservative treatment may be a reasonable option in patients at very high risk with non-life threatening complications, complete excision appears to remain the ultimate goal in vascular graft infection treatment.

### REFERENCES

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DOI of original article: <http://dx.doi.org/10.1016/j.ejvs.2013.01.019>

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<http://dx.doi.org/10.1016/j.ejvs.2012.12.020>