

INVITED COMMENTARY

Mycotic Pseudoaneurysms in Drug Abusers: Still Looking for the Best Weapon for an Old Enemy

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Mycotic femoral pseudoaneurysms in intravenous drug abusers represent a life and limb threatening mix of sepsis and bleeding. Simple techniques such as percutaneous thrombin injection or primary suturing do not have a place in this group of patients because of the extensive destruction of the arterial wall by the repeated punctures and local infection. Principles of management include excision of the infected aneurysm, complete debridement of all necrotic tissue, and ligation of the affected artery, whereas revascularisation remains controversial. Most vascular surgeons would consider ligation of the common femoral artery without any arterial reconstruction as the treatment of choice, obviating the risk of secondary bleeding complications.¹ Depending, however, on the collateral circulation, subsequent major limb amputation has been reported in 0–19% of patients.^{1,2} Therefore, several revascularisation techniques have been described, including *in situ* reconstruction or extra-anatomic bypass, through either the obturator foramen or the lateral femoral route and with either autologous or prosthetic grafts.¹ Needless to say, autologous grafts are preferable, but they are rarely available in intravenous drug addicts.

The outcomes of *in situ* revascularisation using biological grafts in drug injection induced mycotic pseudoaneurysms in the groin are presented by Becker et al. in a retrospective review of 22 patients published in the current issue of *European Journal of Vascular and Endovascular Surgery*.³ Biological grafts included bovine arteries, veins and pericardium, homografts, autologous veins, and biosynthetic vascular prostheses. The lack of peri-operative graft related complications as well as the long term major amputation rate of only 4% are very encouraging. On the other hand, the rates of wound healing complications (18%), reinfections requiring graft replacement (27%), and graft occlusions (32%) were quite high, and this must be taken into account in the decision making process.

There are several other points in the article by Becker et al. that should be emphasised. First, the median age was only 39 years, which is the usual age of these patients across all similar studies. Despite this young age, 27% of the patients died from non-vascular causes within a median follow up of 56 months. Second, the duration of the surgical operation was up to 8 h and 15 min, underlying the difficulty and the complexity of the operations. Plastic reconstruction with a sartorius muscle flap, tensor fascia lata muscle flap, or even rectus abdominis myocutaneous flap was frequently required. Negative pressure wound therapy was needed post-operatively in most of the patients.

Another problem in this group of patients is that some of them will treat their graft as a vascular access point. Although it would be quite useful to know how often this happens, this has not been addressed in the literature. In the present study, only one patient (4.5%) used his new biological graft for repeated drug injection. Withholding revascularisation by graft for the fear of repetitive drug injection is therefore unjustified.

In conclusion, Becker et al. introduce new "biological weapons" in the battle against mycotic pseudoaneurysms in intravenous drug abusers. Vascular reconstructions were complex, labour intensive and with several life and limb threatening complications but, at the end of the day, the low amputation rate shows that the effort was worthwhile.

REFERENCES

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- 3 Becker D, Béguin M, Weiss S, Wyss TR, Schmidli J, Makaloski V. *In situ* reconstruction of infected groin pseudoaneurysms in drug abusers with biological grafts. *Eur J Vasc Endovasc Surg* 2019;**58**:592–8.