

INVITED COMMENTARY

## Trans-Iliac Wing Bypass for Lower Extremity Arterial Reconstruction

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Dr Enzmann and colleagues present a literature review and add eight more cases of trans-iliac wing distal bypasses (TIB) performed at their institution.<sup>1</sup> The explanation and illustration of the procedure are very clear. Results were gratifying, with no limbs lost at last follow up and no operative deaths, although three of eight grafts thrombosed, two of which were salvaged by thrombectomy.

The obvious extra-anatomic procedure with which TIB should be compared is trans-obturator bypass, or as the authors call it "obturator canal bypass". Although the original indication for this type of procedure was prosthetic bypass infection in the groin, as the authors point out, other indications have emerged, such as previous groin radiation and trauma and I would add infection after trans-femoral endo-arterial procedures.<sup>2</sup> For example, our last three trans-obturator bypasses were to treat mycotic femoral aneurysms complicating transfemoral coronary procedures. Radiation is a special problem and I agree with the authors that this is a clear indication for avoiding a direct operation in the groin, although I must say that the most difficult trans-obturator bypass I can recall was made so by the rigidity of the irradiated abdominal wall that made exposure of the obturator fossa very difficult, and this would probably have been less difficult with a TIB.

The authors point out that the subcutaneous graft position makes surveillance and re-intervention easier, and this certainly makes sense. However, the two most recent interventions in our series of trans-obturator bypasses were at the proximal anastomosis in the pelvis, thankfully both performed with endovascular techniques. It is likely that TIB would be amenable to endovascular intervention, except, perhaps, at the site where the graft passes through the iliac wing and probably makes a fairly acute bend.

In contrast to the reviewed precedent literature, Dr Enzmann and colleagues used vein in six of their eight cases,

and state that this is their preference. We agree and have always used vein for this category of reconstruction, hoping to reduce the risk of trading one (often prosthetic) infection for another and because absence of bacteraemia based on a blood culture from 24 to 48 h prior to surgery does not mean that the patient is not, or will not be, bacteraemic at or after surgery. They report no secondary infections among their eight subjects or the 23 subjects in their literature review, and that obviously supports their selective approach.

I find the authors' argument that TIB might be preferred in the presence of scarring in the area posteromedial to the groin to be compelling. One example in our experience was late reconstruction after a shotgun injury to the groin, during which graft tunnelling was difficult. A TIB would probably have been an easier choice in that case.

As has been the case for so many other open vascular surgical procedures, the continued advancement of endovascular therapies has changed the spectrum of problems to which these unusual procedures are applicable. TIB would appear to be yet another tool to address these newer problems. The authors' results are gratifying and make it clear that TIB is appropriate in selected circumstances.

### REFERENCES

- 1 Enzmann FK, Nierlich P, Eder SK, Aspalter M, Dabernig W, Aschacher T, et al. Trans-iliac wing bypass for the management of vascular groin complications. *Eur J Vasc Endovasc Surg* 2019;58: 930–5.
- 2 Schneider JR. Aortoiliac: extra-anatomic bypass. In: Cronenwett JL, Johnston KW, editors. *Rutherford's Vasc Surg*. 8th ed., 2. Philadelphia: Elsevier Saunders; 2014. p. 1722–42.