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Editorial Comment

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The authors retrospectively present their results regarding erectile function following penile revascularization in patients enduring pelvic fracture urethral injuries. Their procedure involved anastomosis of the inferior epigastric artery to either the dorsal penile artery and/or to the deep dorsal vein in an end-to-side fashion. 17 patients were found to be eligible for the study, and all were evaluated with penile duplex ultrasounds to evaluate for venous leak and arterial insufficiency. They were found to have an 82% success rate, but most patients were using PDE-5 inhibitors, intracavernosal injection (ICI) or both following the surgery. Success was assessed as reported by the operating surgeon.

The authors add to the growing recent literature in support of penile revascularization operations. Kayigil et al. reported on 110 patients who underwent penile revascularization with 82% success rates at 3 months and 64% success rates at 5 years¹. Kawanishi et al. presented 51 patients who underwent penile revascularization with 5 year efficacy rates of 67.5%². The current study focuses on patients who presented with erectile dysfunction related to pelvic fracture urethral injuries. This study population may be younger with fewer co-morbidities than patients presented in prior studies. As such, they may have improved long term success rates. However, many patients still required the assistance of PDE-5 inhibitors or ICI following surgery despite promising postoperative flow studies. This suggests possible persistent neurogenic causes of erectile dysfunction and/or incomplete treatment.

Multiple techniques have been described, including that by Hauri et al., anastomosis of the dorsal vein, dorsal artery, and inferior epigastric artery, deep dorsal vein arterializations by Virag et al. and subsequently, the Furlow-Fisher modification³⁻⁵. The authors here present a method whereby the inferior epigastric artery is anastomosed to the deep dorsal artery in an end-to-side fashion. It has previously been argued that this method may have poor long term efficacy rates due to the possibility of anastomotic thrombosis⁶. With an average follow up of 3.1 years in this study, it is unclear what the long term success rate of this technique was.

Revascularization was also performed to improve spongiosal blood flow and prevent ischemia related stenosis following urethral reconstruction. Four patients with proven bilateral complete obstruction of the deep internal pudendal arteries were available for this indication. No patients in the overall cohort had report of recurrent urethral stricture. Davies et al. saw similar success in 6 patients⁷. Theoretically, revascularization may prevent ischemia at the site of reconstruction, but longer follow up, and a larger cohort of patients is necessary to establish this as a clinical indication for penile revascularization.

Overall, the authors demonstrate that high success rates following penile revascularization surgery are possible. Central to achieving this outcome is careful selection of patients with

thorough preoperative evaluation to identify erectile dysfunction from arterial insufficiency. Additionally, success from this operation should not necessarily be defined as complete freedom from any pharmacologic assistance as erectile dysfunction is often multifactorial in etiology. Multiple questions, however, are still present, including long-term success rates, and the ideal method for revascularization.

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