

Penoscrotal Decompression—Promising New Treatment Paradigm for Refractory Ischemic Priapism

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ABSTRACT

Background: For prolonged ischemic priapism, outcomes after distal shunt are poor, with only 30% success for priapic episodes lasting longer than 48 hours.

Aim: To present a novel, glans-sparing approach of corporal decompression through a penoscrotal approach for cases of refractory ischemic priapism (RIP) after failed distal shunt procedures.

Methods: We describe the technique and present our initial experience with penoscrotal decompression (PSD) for treatment of RIP after failed distal shunt. We compared outcomes of patients with RIP undergoing surgical management using PSD or malleable penile prosthesis (MPP) placement after failed distal penile shunt procedures (2008–2017).

Outcomes: Our initial experience showed favorable outcomes with PSD compared with early MPP placement in patients with RIP whose distal shunt failed.

Results: Of 14 patients with RIP undergoing surgical management after failed distal penile shunt procedures, all patients presented after a prolonged duration of priapism (median = 61 hours) after which the priapism was refractory to multiple prior treatments (median = 3, range = 1–75) including at least 1 distal shunt. MPP was inserted in 8 patients (57.1%), whereas the most recent 6 patients (42.9%) underwent PSD. All patients with PSD (6 of 6, 100%) were successfully treated with corporal decompression without additional intervention and noted immediate relief of pain postoperatively. In contrast, 37.5% of patients (3 of 8) undergoing MPP after failed distal shunt procedures required a total of 8 revision surgeries during a median follow-up of 41.5 months. The most common indications for revision surgery after MPP placement included distal (4 of 8, 50%) and impending lateral (2 of 8, 25%) extrusion.

Clinical Implications: PSD is a simple, effective technique in the management of RIP after failed distal shunt procedures with fewer complications than MPP placement.

Strengths and Limitations: Although PSD is effective in the management of RIP after failed distal shunt procedures, long-term assessment of erectile function and ease of future penile prosthetic implantation is needed.

Conclusion: Corporal decompression resolves RIP through a glans-sparing approach and avoids the high complication rate of prosthetic insertion after failed distal shunt procedures. **Fuchs JS, Shakir N, McKibben MJ, et al. Penoscrotal Decompression—Promising New Treatment Paradigm for Refractory Ischemic Priapism. J Sex Med 2018;XX:XXX–XXX.**

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Key Words: Ischemic Priapism; Penile Prosthesis; Treatment Failure

INTRODUCTION

Refractory ischemic priapism (RIP) is characterized by unrelied tissue pressure within a closed compartment, occluding venous outflow with progressive tissue hypoxia and necrosis.¹ RIP leads to time-dependent changes within the corpora cavernosa, with irreversible changes to corporal tissue occurring within 6 hours of onset.² Although erectile function can be preserved in 50% of patients if priapism is treated within 24 hours, preservation of erectile function and response rate to

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Figure 1. Preoperative assessment shows refractory ischemic priapism with persistent tumescence after failed bilateral distal corporoglanular shunts, with sutures in place, which are glans deforming in nature.

distal shunt procedures declines rapidly with increasing duration of priapism.^{3,4} According to American Urological Association guidelines, management of RIP typically includes a distal penile shunt procedure after more conservative measures have failed.⁵ However, for prolonged ischemic priapism, outcomes of distal shunts, including intracavernosal tunneling, are poor, with only 30% success for priapic episodes lasting longer than 48 hours.^{6–8}

Although guidelines also include mention of the proximal shunt as an option after distal shunt failure, in clinical practice, these have fallen out of favor and are rarely reported in the contemporary literature. Although immediate malleable penile prosthesis (MPP) implantation has been described in the management of RIP, in the context of prior distal shunt procedures, glans integrity is compromised; early MPP placement has been associated with an increased risk of infectious complications and erosion.^{1,9–14}

INDICATIONS FOR PROCEDURE

Effective options for cases of RIP after failed distal shunt procedures remain scarce. Rates of successful priapism resolution are poor after repeated distal shunt, proximal shunt, and immediate penile prosthetic implantation. Recently, in cases of RIP persisting after distal shunt, we have implemented a novel penoscrotal decompression (PSD) in lieu of early MPP and proximal shunt placement. We describe the technique and present our initial experience with corporal decompression using the penoscrotal approach for the treatment of RIP after failed distal shunt procedures.

PREOPERATIVE PREPARATION

The preoperative preparation for patients undergoing PSD is similar to that of patients undergoing penile prosthesis implantation. Components of the preoperative workup are directed to assess priapic history and etiology. Pertinent patient history includes duration of priapism, prior interventions, prior priapic episodes, medications, personal and family history of sickle cell disease, baseline erectile function, and comorbidities. A thorough physical examination is performed, including a careful assessment of penile tumescence and site of prior corporoglanular shunts (Figure 1). Penile blood gas is performed to confirm ischemic (low-flow) priapism. Optimization of medical conditions that might be contributing to priapism is performed before proceeding to the operating room. The patient is positioned in the supine position and a preoperative antibiotic directed toward skin flora is given within 1 hour of incision. The surgical field is prepared with careful shaving of hair in the penoscrotal region, followed by chlorhexidine-alcohol scrub.

INTRAOPERATIVE CONSIDERATIONS

Initial incision and dissection are identical to those used for penoscrotal inflatable penile prosthesis implantation. A 12-Fr urethral catheter is placed. The Lone Star retractor system

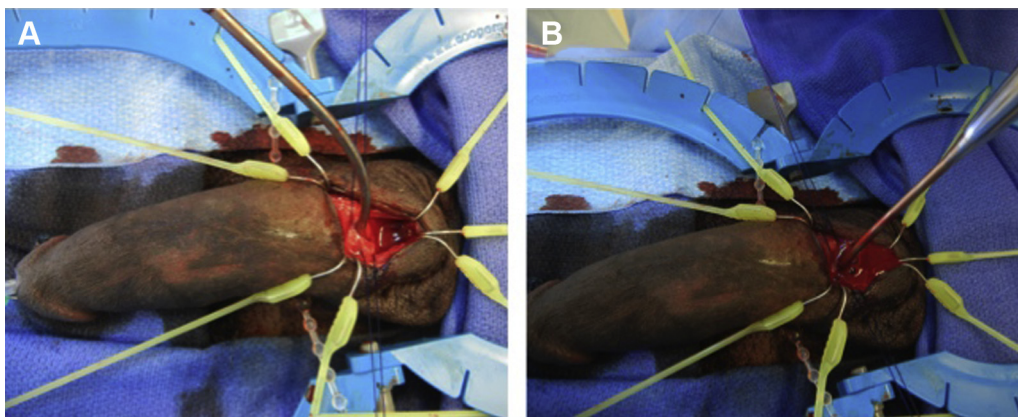


Figure 2. Unilateral penoscrotal decompression. Panels A and B show distal and proximal corporal decompression, respectively, using a pediatric Yankauer suction tip, with subsequent return of bright red blood and detumescence.

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