CME

A Case of Mechanical Failure with Proximal Perforation at the Time of Revision Surgery

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ABSTRACT

Background. Implantation of inflatable penile prosthesis (IPP) is a well-established treatment for medically refractory erectile dysfunction with proven long-term reliability. However, if an IPP fails, the subsequent surgery to fix the IPP can be more difficult with higher risks of complications than the primary implantation.
Aims. To review and evaluate a case of a difficult IPP replacement surgery for ways to improve surgical techniques and outcomes.
Materials & Methods. Perform a case report of a difficult IPP replacement surgery in which the patient had proximal perforation of the tunica albuginea with a review of the pertinent literature.
Results. The rear tip sling is a successful way to repair proximal perforation of the tunica albuginea. Recent publications show new surgical techniques to lower infection rates in IPP revision surgery.
Discussion. The rear tip sling appears to have better outcomes than a synthetic windsock for repairs of proximal perforation of the tunica albuginea. Recent publications have shown that the revision washout decreases penile prosthesis infection rates in revision surgeries.
Conclusion. While revision surgery for IPPs have higher risks than primary implantation, newer surgical techniques are helping to reduce these risks. **Zanoni M, and Henry GD. A case of mechanical failure with proximal perforation at the time of revision surgery. J Sex Med 2009;6:2629–2632.**

Key Words. Surgery; Penis; Implants; Impotence

Clinical Case

T.S. is a 70-year-old man referred from his primary care physician for a penile prosthesis that had "stopped working" about 3 months before. In 2000, he underwent insertion of a three-piece inflatable penile prosthesis (IPP) for diabetes-associated erectile dysfunction (ED). The prevalence of ED is high in patients treated for diabetes mellitus: 50% of men with diabetes for more than 10 years have severe ED. The pathophysiology of ED is complex and multifactorial, involving a combination of classical risk factors (endothelial dysfunction), specific factors (diabetic neuropathy), and psychological factors. In 1999, the patient's primary care physician referred him to a urologist after progressively worsening ED had failed to respond to oral phosphodiesterase type 5 inhibitor therapy at the maximum dose on more than eight attempts. The patient had also tried a vacuum erection device and maximum dose intracavernosal trimix with no success. After being diagnosed with end-organ failure, he subsequently underwent a successful implantation of an IPP with good satisfaction postoperatively until it stopped working.

On examination, the pump was flat with no fluid in the system. There was no clinical evidence of infection or extrusion of any of the components. Medical records revealed that an IPP with 18 cm cylinders and 1 cm rear tip extenders (RTEs) bilaterally had been placed via a penoscrotal incision. Therapeutic options were discussed with the patient including: (i) observation, knowing that the

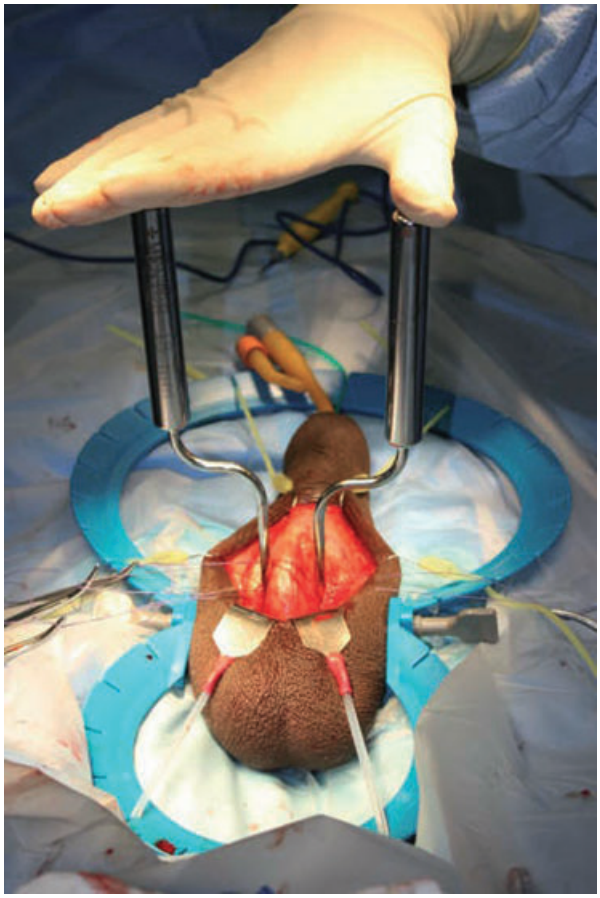

Figure 1 Field goal test: dilators at same depth and angle.

implant will not work again; (ii) revision surgery, where the surgeon tries to diagnose the failed component of the IPP and corrects just that one aspect of the IPP; or (iii) complete replacement, with an entirely new IPP. The patient was educated that most experts suggest that after 5 years the entire implant be replaced; the patient elected for replacement with a new IPP.

After informed consent and 3 days of preoperative alcohol-based surgical scrub showers, the patient underwent explantation/replacement of the prosthesis, through a penoscrotal approach. During the removal, there was no clinical evidence of infection. The cylinders, all RTEs, and pump were easily removed, but explantation of the reservoir on the right side became very difficult. As it was deep behind the pelvis, the tubing to the reservoir was pulled up and cut as far down as possible, allowing it to retract back into the patient. After implant removal, all exposed implant spaces were washed out with several liters of antiseptic solution, consistent with the technique of "revision washout."

While measuring the length of the corpora, there was a large difference between the two sides proximally, with the right side measuring 10 cm and the left side measuring greater than 15 cm. To the best of our knowledge, the perforation resulted from passing the Furlow down proximally during corporal body measurement. The diagnosis of left proximal perforation was confirmed by passing two dilators proximally, with a large discrepancy between the two dilators (failed field goal test), with the left dilator dropping more than 5 cm deeper than the right-sided dilator (Figures 1 and 2). The corporal measurement on the right was 10 cm proximally and 11 cm distally; an 18 cm cylinder and 3 cm RTE IPP were chosen for replacement. A rear tip sling was utilized using a 0 permanent monofilament suture on the left side (see Table 1). A new 100 cc reservoir was placed in the left space of Retzius (opposite to the original reservoir side), in the standard fashion. At 6 weeks postoperatively, the patient was taught to cycle his IPP lightly for 6 more weeks, then to resume sexual activity a full 3 months after surgery.

Comment

Prosthetic devices are a well-established form of treatment for medically refractory ED. Satisfaction rates cited for this approach are generally very high [1]. The three-piece IPP has the highest patient satisfaction and lowest mechanical rate of

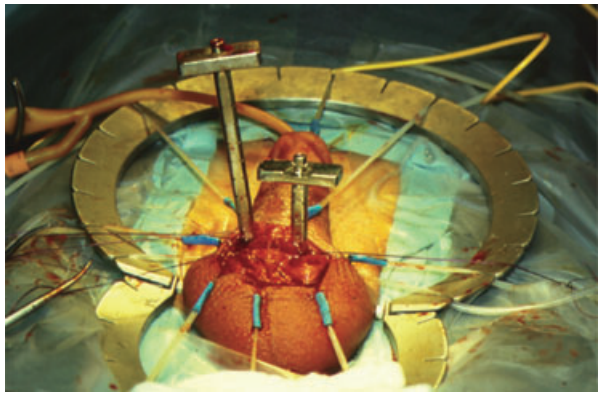

Figure 2 Failed field goal test: dilators uneven in depth with the left dilator dropping significantly proximal, indicating a proximal perforation on the left side.