Immediate Insertion of a Semirigid Penile Prosthesis for Refractory Ischemic Priapism

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The insertion of a penile prosthesis for reduction of ischemic priapism has previously been described for cases of sickle cell disease, delayed presentation, or failure of previous shunt surgery. We report the first case of immediate insertion of a malleable prosthesis as primary surgical therapy for refractory ischemic priapism in a patient with known preexisting erectile dysfunction. We propose a novel management algorithm incorporating the acute insertion of a penile prosthesis as an effective option in the management of refractory ischemic priapism.

Introduction

Ischemic priapism refractory to medical management presents a significant therapeutic challenge. Observation alone will inevitably lead to pronounced corporal fibrosis, thus complicating subsequent treatment. Corporal shunt procedures, while effective in relieving priapism, are often associated with subsequent erectile dysfunction. Immediate insertion of a semirigid penile prosthesis provides an effective management approach for refractory ischemic priapism in the setting of preexisting erectile dysfunction.

Case Presentation and Management

A 68-year-old African-American man with a history of recurrent priapism and preexisting erectile dysfunction presented with a 26-hour history of painful priapism. The patient had been on intermittent therapy with 100 mg of sildenafil for 2 years before this priapastic event and he had no identifiable factors that would predispose him to priapism. Corporal blood gas analysis demonstrated ischemia. Screening for sickle cell disease was negative. The erection proved refractory to all standard medical management including corporal aspiration, irrigation, and repeated adrenergic injection therapy with phenylephrine. Given the patient’s history of erectile dysfunction and prolonged duration at presentation, a Duraphase II semirigid penile prosthesis (Dacomed, Minneapolis, Minnesota) was inserted under general anesthesia via a penoscrotal incision as primary surgical therapy. The patient was discharged to his home the next day. Wound healing was favorable and the prosthesis provided excellent cosmetic and functional results at 6-months follow-up.

Discussion

Priapism of >24 to 36 hours in duration rarely responds to medical management, thereby requiring more invasive shunt procedures. Long-term patency of the shunt can lead to varying degrees of erectile dysfunction. Furthermore, prolonged duration of ischemia will inevitably lead to erectile dysfunction, penile shortening, and corporal fibrosis that can adversely affect future attempts at penile prosthesis placement. Acute penile prosthesis insertion has recently been advocated as primary surgical therapy for refractory priapism in selected cases.1

Previous reports of penile prostheses for priapism have primarily involved recurrent ischemic priapism in young sickle cell patients, delayed presentation, or failure of previous shunt surgery. Rees et al.1 effectively managed eight patients with ischemic priapism and a mean duration of 91 hours with insertion of either inflatable or malleable penile prostheses. One-half of the patients had failed previous corporosaphenous or Winter shunts. The only failure was penile deformity caused by fibrotic compression of an inflatable cylinder which led the authors to conclude a semirigid device was best used as a temporizing measure to maintain penile length until an inflatable prosthesis could be placed. The authors concluded that the immediate insertion of a penile prosthesis should always be offered at initial presentation. A recent evaluation of the efficacy of shunt surgery by Nixon et al.2 found that nearly 50% of patients undergoing initial shunt procedures required additional surgery to achieve detumescence. Moreover, 90% of patients reported significant erectile dysfunction following shunt surgery.2

The 2003 American Urological Association Priapism Practice Guidelines recommend reserving shunt procedures until after an
adequate trial of intracavernous sympathomimetic injection fails to provide detumescence.\textsuperscript{3} The traditional management algorithm for ischemic priapism does not include the insertion of a penile prosthesis. We propose a modified algorithm incorporating the immediate insertion of a penile prosthesis as a viable option for refractory ischemic priapism in cases of preexisting erectile dysfunction, delayed presentation, or failure of previous shunt surgery (Fig. 1).

References

