

# Vacuum Erection Device Use in Elderly Men: A Possible Severe Complication

Robert L. Bratton, MD, and Harvey D. Cassidy, MD

Erectile dysfunction affects up to 30 million American men and their partners. Between the ages of 40 and 70 years, the probability of complete erectile dysfunction triples from 5.1% to 15%.<sup>1</sup> Erectile dysfunction is defined as the persistent inability to attain or maintain penile erection sufficient for sexual intercourse. In 1992 the National Institutes of Health Consensus Development Conference recommended that the term "erectile dysfunction" replace "impotence" because it more accurately defined the problem with fewer negative implications.<sup>1</sup>

Many therapeutic options, with varying degrees of patient satisfaction, are now available for erectile dysfunction. These options include pharmacologic agents such as yohimbine, sildenafil (Viagra), intracavernosal alprostadil (Caverject), and transurethral alprostadil (MUSE). Nonpharmacologic treatment includes vacuum erection devices, penile prostheses, and penile revascularization. Of these choices, vacuum erection devices are most commonly prescribed.

In most men, vacuum erection devices induce penile rigidity sufficient for vaginal penetration regardless of the reason for erectile dysfunction. Such devices are considered safe and relatively easy to use.<sup>2</sup> Complications can occur, however. We describe a patient whose case illustrates a potentially dangerous complication of using a vacuum erection device.

## Case Report

An 85-year-old man came to the Mayo Clinic Primary Care Clinic for an emergency visit. The patient's medical history was notable for hypertension, hypothyroidism (necessitating replacement therapy), benign prostatic hypertrophy (transurethral resection of the prostate), and multifactorial

erectile dysfunction. The patient had used a vacuum erection device for the last 5 years without complications. We received a frantic call from his wife, who stated that her husband had attempted to use the vacuum erection device but was now in considerable pain, with his penis and testicle turning blue. She was advised to cut the constricting ring but was unable to do so and was told to bring him to the clinic immediately.

When he arrived, the patient reported that he had used the vacuum erection device approximately 15 to 30 minutes before arrival for medical care. When he placed the constricting ring at the base of his penis, he unintentionally trapped his right testicle under the plastic ring. When he was examined, it was apparent that his wife had cut the finger grip in an effort to remove the device, but she had not cut the constricting ring itself. Swelling and ecchymosis were evident.

After excision of the plastic constriction band, normal color and associated blood flow were immediately restored to the testicle, but the area remained tender to palpation. The patient was instructed to rest, apply cool compresses, and elevate the area to prevent any further edema. After dismissal home, no further symptoms were reported.

## Discussion

Vacuum erection devices are usually tolerated and effective, with low morbidity and few recognized complications.<sup>3</sup> A previous study showed that men who had moderate erectile dysfunction had a higher success rate in using vacuum erection devices than did patients with mild or severe erectile dysfunction.<sup>4</sup> An additional study showed that 83.5% of 5,847 vacuum erection device users continued to use the device for intercourse as desired.<sup>5</sup> The device is effective for many couples in the treatment of erectile dysfunction associated with spinal cord injury.<sup>6</sup> Vacuum erection devices have also been found to be safe in patients receiving warfarin.<sup>7</sup>

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From the Department of Family Medicine (RLB, HDC), Mayo Clinic, Jacksonville, Fla. Address reprint requests to Robert L. Bratton, MD, Department of Family Medicine, Mayo Clinic, 4500 San Pablo Road, Jacksonville, FL 32224.

Instructions for the use of vacuum erection devices specify that the constricting band should be applied for no more than 30 minutes. Men with unexplained priapism or bleeding disorders should not use the device.<sup>5</sup> According to the manufacturers' information and published literature, complications include discomfort, local irritation, and ecchymosis. Urethral bleeding, skin necrosis at the ring site, development of a cystic mass, penile ecchymosis, and development of Peyronie disease have also been reported.<sup>3</sup>

With the increasing aging population, physical limitations, such as loss of dexterity, decreased visual acuity, decreased hearing, and other associated deficits related to aging, can lead to incorrect use of such devices. Thus, primary care physicians will be confronted with unforeseen complications of therapeutic options that were previously considered safe but are in fact potentially dangerous to the elderly.

## Conclusion

Effective treatment for the common problem of erectile dysfunction can be achieved with various methods. In many cases patients respond well to and prefer the vacuum erection device. Although this device is associated with few side effects and can be beneficial in many situations (spinal cord

injury, anticoagulation, and others), primary care physicians should familiarize themselves with potential severe complications. Prompt or urgent treatment might be necessary to prevent serious morbidity.

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