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Journal Title: Case Reports in Urology
Volume: Volume 2013, Number 2013
Publisher: Hindawi Publishing Corporation | 2013-05-14, Pages 1-3
Type of Work: Article | Final Publisher PDF
Publisher DOI: 10.1155/2013/215492
Permanent URL: http://pid.emory.edu/ark:/25593/f7tq9

Final published version: http://www.hindawi.com/crim/urology/2013/215492/

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Accessed September 14, 2017 4:28 PM EDT
Case Report

Breakage of Needle during Intracavernosal Injection and Use of Portable Ultrasound Guidance for Removal

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Received 22 April 2013; Accepted 14 May 2013

1. Introduction

Intracavernosal injection (ICI) therapy was introduced in 1982, and today it remains a viable second-line therapy for erectile dysfunction with high satisfaction reported in patients who remain on ICI [1, 2]. Complications of ICI may include penile burning, priapism, and ecchymosis [3]. Herein, we describe an uncommon complication of ICI therapy, namely, breakage of the ICI needle and lodging of needle in the corpus cavernosum itself [4–6]. We further describe the novel use of bedside ultrasound visualization to localize the needle to guide removal.

2. Materials and Methods

The patient was a 42-year-old African-American male paraplegic with a history of transverse myelitis. He had been successfully treated with ICI for a number of years. While performing an injection early one morning, a large section of the 30-gauge needle broke at the hub, remaining lodged in the penis. The patient attempted to remove it himself at home by making a small incision over the injection site but was unable to do so.

He presented to the Emergency Department without any gross hematuria. A pelvic X-ray revealed a 30-gauge needle in the penis (Figure I(a)). On physical exam, the needle was not immediately palpable, although deep palpation was not attempted secondary to risk of needle-stick exposure. Other laboratory values were within normal limits.

The patient was brought to the operating room for penile exploration and removal of foreign body. On flexible cystoscopy, no needle was visualized in either the bladder or the urethra. At this point, we obtained a portable high-frequency ultrasound probe for visualization. The machine used was the same that anesthesiologists use to place venous lines; thus, it is readily available in nearly all operating rooms. No specific settings were changed, as the default setting, 12 MHz, is readily used to detect structures at a short distance.

3. Results

On ultrasound imaging, a hyperechoic longitudinal structure was seen, corresponding to the broken intracorporal needle
Figure 1: (a) Use of digital radiography to enlarge and increase brightness of the pelvic X-ray to better demonstrate presence of the retained needle. (b) Image of broken intracavernosal needle deep within penile tissue, via portable high-frequency ultrasound. (c) Intraoperative photograph of needle embedded within penile tissue; white arrow shows needle location. (d) The broken needle after extraction from the patient’s penis.

(Figure 1(b)). A 1 cm longitudinal incision was made directly above where the needle was buried. The needle was extracted without complication (Figures 1(c)-1(d)). There were no operative complications. Follow-up ultrasonography and X-ray confirmed successful removal of the broken intracorporal needle in its entirety.

4. Discussion and Conclusions

We report on a novel use of portable high-frequency ultrasound to visualize a foreign body inside the penis before surgical intervention. While needle break complications are rare, there are other reported cases of needle breakage and retrieval during ICI [6, 7].

The described operative technique represents intraoperative utilization of a portable high-frequency ultrasound probe to precisely locate a foreign body in the deep tissues of the penis. This allowed for rapid extraction of the needle with minimal injury to the patient, protection for the surgical team from potential needle-stick injury, and reduction of exposure to ionizing radiation by avoiding intraoperative fluoroscopy. Other urologists and surgeons may find this technique helpful for the removal of foreign bodies from deep tissues of the penis.

Conflict of Interests

The authors report no conflict of interests.

References


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