Andrology and fertility

A rare complication; retained needle during intracavernosal injection for erectile dysfunction

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Introduction

We report a rare case of a retained penile needle injury sustained during self-administration of penile intracavernosal injection (ICI) for erectile dysfunction. ICI has been used successfully since 1982 for patients with erectile dysfunction. Despite advances in oral and intrarectal treatments, ICI remains a very effective second line therapy for many patients. Known complications include priapism, penile pain and ecchymosis. We report on a rarely reported complication of a retained penile needle injury and its surgical retrieval.

Methods and results

Our patient, a 55-year-old male with a 10-year history of organic erectile dysfunction had been only partially responsive to PDE-5 inhibitors. He elected to undergo ICI 10 months prior and had been successfully treated by an outside Urologist with Trimix injections during this period. He had experienced no previous complications with injections. However, whilst travelling abroad he self-injected with a reportedly, “bent needle” into the left corpora using his right hand. Following administration of the Trimix solution he withdrew the 30 Gauge needle, however, the needle had snapped off within the corpora. He did not feel any associated pain but did not seek immediate medical attention until he returned to the United States 3 days later. He presented to the Emergency Room for evaluation. On physical exam the needle was non-palpable within the penis but the 1.1cm needle fragment was visible on X-ray and on penile ultrasound in the left corpora. The needle had remained in a longitudinal orientation (Fig. 1). Attempts to express the needle following a penile nerve block were unsuccessful.

The patient was taken to the operating room and appropriately shaved, prepped with chlorhexidine and draped following general anesthesia with endotracheal intubation. The procedure commenced with a penile block using 0.5% bupivacaine followed by a circumferential anesthesia with endotracheal intubation. The procedure commenced with shaved, prepped with chlorhexidine and draped following general anesthesia. The ultrasound was then utilized to isolate the distal penile incision. This was followed by penile degloving to expose a penile block using 0.5% bupivacaine followed by a circumferential anesthesia with endotracheal intubation. The procedure commenced with shaved, prepped with chlorhexidine and draped following general anesthesia. The ultrasound was then utilized to isolate the distal penile incision. This was followed by penile degloving to expose a penile block using 0.5% bupivacaine followed by a circumferential anesthesia with endotracheal intubation. The procedure commenced with shaved, prepped with chlorhexidine and draped following general anesthesia.

The patient was taken to the operating room and appropriately shaved, prepped with chlorhexidine and draped following general anesthesia. The procedure commenced with a penile block using 0.5% bupivacaine followed by a circumferential distal penile incision. This was followed by penile degloving to expose the tunica albuginea. The ultrasound was then utilized to isolate the superficial lying needle in the left corpora. The needle had remained in a longitudinal lie. A 3 cm longitudinal corporotomy was made using a 15 blade and dissection down to the needle was accomplished sharply with Metzenbaum scissors (Fig. 2). The needle was identified and removed from the corpora (Fig. 3).

The wound was then irrigated with saline. Meticulous hemostasis then occurred with bipolar electrocautery. The tunica was closed with 4-0 PDS suture in a running fashion. The penile skin was re-approximated using 4-0 chromic sutures in an interrupted fashion. The penis was wrapped with Xeroform dressing, a gauze and Coban dressing.

The patient recovered well from the surgery and returned on post op day 16 with the wound healing well. He had not experienced an erection post operatively. Given he had been partially responsive to PDE-5 inhibitors he was recommended to start Tadalafil 5 mg daily but to abstain from intercourse for 4 weeks post operatively. On post op day 21, he reported return of early morning erections that rated 3/10. He was subsequently informed to return for injection teaching prior to restarting further ICI. Following re-teaching he successfully recommenced ICI without event at 6 weeks post op.

Discussion

This report of a rare complication from ICI identifies learning points for patients and Urologists. This retained needle was the result of both a defective needle and incorrect injection technique. The patient did not only inject a defective needle, but the injection angle was conducted into the left corpora with his right hand as opposed to the correct technique, with the injection of the corpora with the ipsilateral dominant hand.

We recommend that when patients perform ICI that they use their dominant hand and inject a 30G needle either at the 10 or 2 o’clock positions 3–4cm from the base of the penis. The rationale behind injecting at the 10 and 2 o’clock positions is to avoid the neurovascular bundle. We recommend that if patients are self-injecting that they do so using the same corpora side each time and do not inject the same corpora more than once in a 24-h period or more than 3 times in a week. If their partner is performing the injections, we recommend alternating corpora and inject at either the 10 or 2 o’clock position.

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Fig. 1. Penile ultrasound showing the needle (yellow arrow) and Tunica Albuginea (red arrow). (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

Fig. 2. Dissection.
between uses. We recommend the use of 30G needle as smaller needles have reduced rigidity and are at increased risk of buckling or breaking.

Although other case reports have described patients experiencing pain with a retained needle our patient did not. Our patient also waited 3 days prior to presenting for assessment without any infectious sequelae.

Although initially identified on plain x ray in the emergency room we found that isolating the needle with ultrasound (when we attempted to manually remove the needle) was also an efficient and effective technique for confirming the presence of a retained needle. We also found that intraoperative ultrasound to be very effective in isolating the needle.

Conclusion

Despite being a rare complication, a retained penile needle injury can occur with penile intracavernosal injections and patients should be educated on the risk and how to avoid its occurrence. We recommend that patients refrain from using defective needles, and that they perform penile injections using the dominant hand to the ipsilateral corpora. We also recommend the use of ultrasound to isolate the needle intraoperatively.

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