



Delayed infected lymphocele associated with intracavernosal penile injection

Naeem Rahman^{a,*}, Charles White^b

^a Associate Clinical Professor of Urology, New York Medical College, Valhalla, NY, USA

^b New York Medical College, Valhalla, NY, USA

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ABSTRACT

Pelvic lymphoceles are complications that can arise postoperatively following pelvic surgeries and pelvic lymph node dissection (PLND). Lymphoceles can be clinically symptomatic or remain asymptomatic and spontaneously regress. We report a case of a 55-year-old patient who presented with an infected lymphocele 8 months post robot-assisted radical prostatectomy (RARP) with a PLND associated with intracavernosal injection for erectile dysfunction.

Introduction

A pelvic lymphocele is a collection of lymphatic fluid that can develop after pelvic surgery requiring lymph node dissection.¹ Lymphoceles are commonly seen after pelvic lymph node dissection (PLND) with radical prostatectomy. As many as half of patients who undergo robot-assisted radical prostatectomy (RARP) can develop lymphoceles, although the majority are not clinically symptomatic and they develop shortly after surgery and spontaneously regress.² Delayed symptomatic lymphoceles are rare, and we report a case of a patient with an infected left-sided lymphocele 8 months after RARP and PLND associated in timing with intracavernosal penile injection on the ipsilateral side. The patient has provided his consent to publish the case report, and their anonymity has been preserved.

Case presentation

A 55-year-old male with a history of adenocarcinoma of the prostate 8 months status post RARP and PLND presented to the emergency department with a three-day history of low-grade fever 100.2, chills, left lower quadrant pain, headache, body aches, and fatigue. The patient had no GI symptoms, no recent travel or sick contacts, and had no urinary symptoms including incontinence (no pad use). Fever workup including urinalysis and Covid-19 testing were negative. He did report erectile dysfunction and had injected TRIMIX (papaverine, phentolamine, and alprostadil solution) into his left corporal body 24 hours prior to

developing symptoms.

Laboratory testing showed leukocytosis of 16,600/microliter (normal 4800–10800) and lactic acid 12 mg/dl (normal 5–17 mg/dl). A chest, abdomen, and pelvic CT scan was obtained (Fig. 1) and (Fig. 2), revealing a 4 × 3cm thick-walled fluid collection to the left of the bladder near the inguinal canal consistent with infected lymphocele. He was started on IV Vancomycin and underwent CT-guided percutaneous drainage of the fluid collection. Drainage revealed thin but purulent fluid. Culture of the fluid demonstrated methicillin-sensitive staph aureus. He was discharged home on hospital day 5 with a pelvic drain and transitioned to IV Cephalexin, both of which were discontinued 1 week after discharge with complete resolution of his symptoms.

Discussion

A lymphocele is a collection of lymphatic fluid without a clear epithelial border.¹ Lymphocele formation after pelvic surgeries, especially pelvic lymph node dissection, are a known and common complication. Orvieto et al., in a prospective study, showed the incidence of lymphoceles after robot-assisted pelvic lymph node dissection to be 51%. This included symptomatic and asymptomatic lymphoceles.² Lymphoceles found incidentally will normally spontaneously regress and no treatment is needed for asymptomatic lymphoceles. Lymphoceles can cause symptoms by becoming infected or mass effect compressing nearby structures.³ This case was unusual in the fact the patient presented with an infection 8 months after RARP. A literature search

Abbreviations: Pelvic lymph node dissection (PLND), Robot-assisted radical prostatectomy (RARP).

* Corresponding author.

E-mail address: Nrahman815@gmail.com (N. Rahman).

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Fig. 1. Pelvic CT scan with IV contrast. Demonstrates thick-walled fluid collection in the left lower quadrant near the inguinal ring.



Fig. 2. Pelvic CT scan with IV contrast. Fluid collection measures 28.1mm by 41.2mm.

demonstrated 6 other cases of a delayed infected lymphocele after RARP. Cultures of the aspirate of patients who had delayed presentation of infected lymphoceles after RARP were predominately *Staphylococcus* and *Streptococcus*. Of those cases, 67% were positive for staph, with one being methicillin resistant, and 33% were positive for group B strep. The inciting organism in each case were known commensal organisms.⁴ Of

the 6 cases, only one other mentioned a skin laceration, which was a 5cm superficial cut on the patient’s left leg, that was likely the precipitating factor in causing the lymphocele infection. The laceration was on the ipsilateral side of the infected lymphocele.⁵

Similarly in our case, the patient had used a penile injection for erectile dysfunction into the ipsilateral corporal body before he began having symptoms. Although penile injection as the etiology is not definitive, the timing of symptoms, the penile lymphatic drainage pattern into the groin and deep pelvis, and the presence of skin/commensal bacteria on final culture make this the putative etiology. To our knowledge, this is the first such association between intracavernosal injection and a delayed infection of a lymphocele.

Most asymptomatic lymphoceles resorb after one to two years post operatively; however, as many as 51% of patients undergoing PLND can experience asymptomatic lymphoceles.^{2,3} These patients could be vulnerable to seeding an asymptomatic lymphocele with skin commensal organisms. Patients who are status post RARP/PLND who require intracavernosal injections may benefit from clean or sterile injection technique in additional follow-up imaging.

Conclusion

Lymphoceles are a common complication that can occur following RARP and PLND. Most lymphoceles are asymptomatic and those that become symptomatic usually present early in postoperative care. Those that remain clinically asymptomatic may have the potential to become infected and a delayed presentation. Additional imaging, counseling and education following PLND may be indicated in patients who are susceptible to seeding a potentially asymptomatic lymphocele to prevent increased morbidity.

Consent

The patient has provided their consent to publish the case report.

Declaration of competing interest

None.

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