

Andrology and fertility

## Bilateral persistent sinus tracts formation post bilateral microsurgical inguinal varicocelectomy: A case report

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## ABSTRACT

Varicocele is a common case encountered in urology practice accounting for 15–20% of the general population. We are reporting a rare case of infected inguinal wounds post bilateral microsurgical varicocelectomy which led to persistent bilateral wound sinus formation. After multiple bedside wound debridement and sinus tract excision in operation theater, the patient's wounds were healed. We advise managing post-operative subcutaneous collections very closely to avoid such complications. When it happens and wound debridement is planned, we advise not to leave any dead space behind via using fat flaps.

## Ethical statement

Informed consent was obtained from the patient for writing and publishing this case report and any accompanying images.

## Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

## Introduction

Varicocele is a common case encountered in urology practice accounting for 15–20% of the general population. Moreover, varicoceles are found in approximately 35% of men with primary infertility and up to 81% of men with secondary infertility.<sup>1</sup> Although it is mostly asymptomatic, surgical intervention should be offered when varicocele is associated with scrotal pain, testicular atrophy, and in some cases of infertility.<sup>2</sup> The most common performed operation related to male infertility is varicocelectomy. The possible complications post varicocelectomy are hydrocele formation, testicular atrophy, varicocele recurrence, hematoma and infection. Herein, we are reporting a rare case of infected inguinal wounds post bilateral microsurgical varicocelectomy which led to persistent bilateral wound sinus formation.

## Case presentation

This is a 40-year-old immunocompetent gentleman known case of secondary infertility who underwent bilateral microsurgical inguinal varicocelectomy as the physical examination and scrotal ultrasound showed bilateral varicocele. One month postoperatively, the patient presented with isolated left-sided scrotal pain with an unremarkable physical examination. Ultrasound showed a focal collection/hematoma measuring 26 × 10 × 21 mm at the left inguinal scar area (Fig. 1). One month later, he presented with a picture of bilateral wound infection and scar breakdown for which he required multiple debridement in the clinic. MRI was done and it was negative of any collection or sinus tracts. After two months of the close follow up and the oral antibiotics, the patient was still having persistent pus discharge through a tinny opening in the left inguinal scar. While the right scar revealed a tinny opening without discharge. Subsequently, the patient was booked for bilateral scar revision. Intraoperatively, the left sinus tract was identified reaching deep to the level of the scrotal neck which was excised with extensive debridement and a fat flap was used to pack the gap that was left behind. On the right side, the sinus tract was reaching to the spermatic cord and it was excised successfully as well. Bilateral wounds were connected by an incision and the patient ended up by one 8 cm suprapubic wound which left open to be healed by secondary intention and a vacuum dressing was applied. Tissue culture resulted in *Klebsiella pneumonia* with extended-spectrum beta-lactamase activity and *Pseudomonas*

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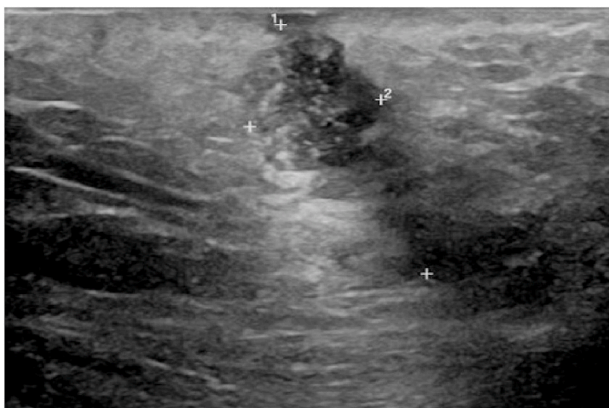


Fig. 1. Image of the initial ultrasound, done at first ER visit.

*aeruginosa* which were targeted with a prolonged course of intravenous antibiotics. The patient was kept on antibiotics until a bedside negative wound culture was obtained. After 32 days of postoperative hospitalization, the wound was healed completely. The patient was followed later, he was asymptomatic and the suprapubic wound showed an excellent healing process (Fig. 2).

### Discussion

Surgical site infections (SSI) are common and costly accounting for 20% of all hospital-acquired infections. The annual costs of SSI in the US is estimated at \$3.5 to \$10 billion.<sup>3</sup> The increased costs from SSIs are driven by the longer length of stay, emergency department visits and readmissions. Risk factors of SSI categorized into patient-related including old age, pre-existing infections, colonization with *Staphylococcus aureus* and other microorganisms, diabetes, obesity, smoking, etc. Also, procedure-related risk factors including the type of surgery, the duration of the operation, preoperative skin preparation and sterilization of surgical instruments.

Minor groin surgeries including varicocelectomy have an extremely low incidence of complications and adverse reactions. A recent meta-analysis showed that the rate of wound infection and hematoma post varicocelectomy has the lowest rate of 1.1% with microsurgical approach.<sup>4</sup> However, a one center study was conducted to examine the return to the hospital after ambulatory surgery discharge showed that patients underwent varicocelectomy and hydrocelectomy are 8.3 times more likely to return to the hospital than other ambulatory surgeries, two-thirds of them were evaluated for infections and fever.<sup>5</sup>

There is no available data in the literature regarding the incidence of wound sinus formation after clean groin surgeries. In our case, the patient developed bilateral sinus formation secondary to SSI. On the left side, the most likely theory behind the sinus formation is the presence of post-operative infected collection. While on the right side no clear reason other than simple SSI which progressed by some reason or another to a sinus formation. After failed multiple bedside debridement, we elected eventually to do an extensive wound debridement and making sure to excise the whole sinus tract which was reaching down to the spermatic cord bilaterally and even beyond it to the scrotal neck on

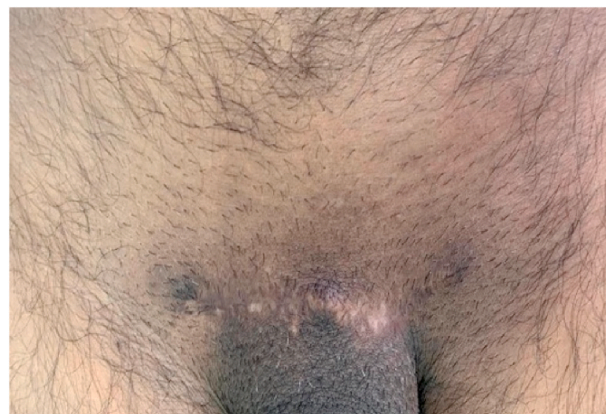


Fig. 2. Taken one month after the discharge, showing an excellent wound healing.

the left side. A fat flap was used to occupy the dead space that was created after the sinus tracts excision.

To our knowledge, we are presenting the first case of bilateral persistent wound sinus formation post bilateral microsurgical Inguinal varicocelectomy. In order to prevent such complication, we strongly advise to use different instruments for each side when doing bilateral procedures on the same sitting. Moreover, we advise managing post-operative subcutaneous hematomas/collections very closely to avoid such complications with its related costly consequences. When it happens and wound debridement is planned, we advise you to pack the area with a fat flap after excising the sinus/fistula tracts. That is not to leave any dead space behind.

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### Declaration of competing interest

The authors have no conflicts of interest.

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