CASE REPORT

Spermatic cord abscess: a rare complication of epididymo-orchitis, the diagnosis and management

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SUMMARY

We present a case of a 54-year-old man who had a history of poorly controlled diabetes and end-stage renal failure on haemodialysis. He presented with an acute left groin swelling that was diagnosed to be a rare occurrence of spermatic cord abscess. Two months prior to this, he had had an episode of bacterial epididymo-orchitis that was treated with oral antibiotics. An urgent CT of the abdomen and pelvis was performed to rule out incarcerated inguinal hernia. The spermatic cord abscess was initially managed with appropriate intravenous antibiotics and ultrasound-guided percutaneous drainage. When the pus eventually accumulated in the scrotum, an open incision and drainage of the scrotum was also performed. He achieved complete resolution after 2 months.

BACKGROUND

Bacterial epididymo-orchitis is a common form of urinary tract infection particularly in immunocompromised patients. However, a majority of bacterial epididymo-orchitis are well treated with antibiotics and complications are rare. Hence, the incidence of spermatic cord abscess is even rarer. To our knowledge, this is the first case of spermatic cord abscess with an evidence of preceding epididymo-orchitis in the English literature.

CASE PRESENTATION

A 54-year-old man presented with left inguinal and scrotal swelling and pain for 1 week. He did not have fever or dysuria. There was also no vomiting, diarrhoea or constipation that may have suggested a gastrointestinal pathology.

Of note, he had had an episode of acute left epididymo-orchitis 2 months earlier that was treated with oral ciprofloxacin. This was diagnosed on an ultrasound of the scrotum as well as a positive urine culture.

He had multiple medical comorbidities such as poorly controlled diabetes mellitus, diabetic retinopathy, diabetic neuropathy, peripheral vascular disease (which required left below knee amputation), hypertension, end-stage renal failure on haemodialysis, previous bilateral parietal lobe infarct, ischaemic heart disease, previous right pneumonia and previous left knee septic arthritis.

On clinical examination, the left inguinal area was swollen and tender. The overlying skin was mildly erythematous but with no pointing abscess. The left spermatic cord was also palpable and swollen. There was localised swelling and

tenderness of the tail of the left epididymis as well. The left testis was, however, not tender or swollen at this point of time. Digital rectal examination was unremarkable.

He was admitted under the General Surgery Team with a preliminary diagnosis of incarcerated inguinal hernia or a possibility of inguinal abscess. He was started on intravenous ceftriaxone and metronidazole.

INVESTIGATIONS

The patient had a serum leucocyte count of $15\,400/\mu\text{L}$. Urinalysis showed 30 red blood cells/HPF and 2250 white cell counts/HPF. Urine culture was sterile.

He underwent a CT of the abdomen and pelvis that showed a peripherally enhancing cystic tubular structure within the left inguinal canal in the expected course of the left spermatic cord ([figure 1](#)).

An ultrasound of the scrotum showed a $14.7\times 2.4\text{ cm}$ heterogenous mass with increased vascularity extending to the left inguinal region, in keeping with left epididymal tail abscess involving the left spermatic cord and extending to the left groin ([figure 2](#)).

DIFFERENTIAL DIAGNOSIS

In view of the location of the swelling and pain, the diagnosis of inguinal abscess was made by the attending physician at the emergency department. Furthermore, absence of fever and the marginal increase of the white cell count could be attributed to the patient's immunocompromised state. He was therefore admitted to the general surgery department with a further plan of surgical drainage.

He was reviewed by the general surgeon, who suspected a differential diagnosis of incarcerated inguinal hernia. This was because of unconvincing skin changes, which suggested that the swelling might be due to an underlying structure instead of the subcutaneous. An urgent CT of the abdomen and pelvis with contrast was therefore arranged which clinched the diagnosis of spermatic cord abscess. This was followed by an ultrasound of the scrotum to delineate the extent of the abscess.

TREATMENT

The patient was treated with antibiotics empirically and switched to oral amoxicillin/clavulanate, according to the culture and sensitivity results. He was initially offered surgical excision of spermatic cord and orchidectomy but refused due to high anaesthetic risk. Instead, he underwent percutaneous drainage of

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Figure 1 CT of the abdomen and pelvis that showed a peripherally enhancing cystic tubular structure within the left inguinal canal in the expected course of the left spermatic cord.

the left spermatic cord abscess from the inguinal approach. This was followed by an incision and drainage of the scrotum under local anaesthesia.

OUTCOME AND FOLLOW-UP

The patient was discharged with oral antibiotics and reviewed weekly at the outpatient clinic. The spermatic cord abscess resolved after 2 months.

DISCUSSION

To the best of our knowledge, there are only three previous case reports of spermatic cord abscess in the English literature. The first case reported by Ishida was a 66-year-old man with peritoneal dialysis.¹ He underwent spermatic-orchidectomy and histology showed mycotic-like *Candida* on the abscess wall. Machida reported an 81-year-old man with spermatic cord abscess and concurrent prostate abscess.² He went for surgical drainage of both abscesses. The final case was treated conservatively and was reported by Ali Kemal Sivrioglu.³

Our case provides a very strong association of spermatic cord abscess and epididymo-orchitis given the temporal sequence of

events. It is thought that epididymo-orchitis, partially treated, will infect the adjacent spermatic cord and subsequently other organs like the prostate. The majority of epididymo-orchitis responds well with antimicrobial therapy. The complication of spermatic cord abscess is therefore a rare entity. To our knowledge, this is the first case of spermatic cord abscess after an episode of epididymo-orchitis. As for the spermatic cord abscess in this case, we would like to report the successful use of percutaneous and surgical drainage and thus the avoidance of an orchidectomy. This will be particularly important if the patient is young and when fertility is a concern or if the patient is a high-risk surgical candidate.

Learning points

- ▶ History of epididymo-orchitis should raise the suspicion of spermatic cord abscess as a differential diagnosis of a groin swelling.
- ▶ Severely immunocompromised patients often present atypically.
- ▶ The combined use of minimally invasive percutaneous drainage and surgical drainage should be considered when the location of abscess cavity is favourable. Surgical spermatic-orchidectomy can be the last resort.

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Figure 2 Ultrasound of the scrotum showed a 14.7×2.4 cm heterogenous mass with increased vascularity extending to the left inguinal region, in keeping with left epididymal tail abscess involving the left spermatic cord and extending to the left groin.

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