Unusual association of diseases/symptoms

A right inguinoscrotal swelling: the importance of histological analysis

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Myxofibrosarcoma of the spermatic cord is a rare condition. We present an unusual case of a 69-year-old gentleman who presented to the emergency department on two occasions with a right inguinoscrotal swelling. We will explore the diagnostic difficulties encountered and subsequent management. We will also highlight the importance of histological analysis when unexpected findings are encountered.

BACKGROUND

Myxofibrosarcoma of the spermatic cord is a rare cause of inguinoscrotal swelling in males. It is not usually considered when a patient presents with an inguinoscrotal mass.

In this case report we describe an unusual presentation of a myxofibrosarcoma of the spermatic cord in what is currently a rarely reported condition. This case highlights the importance of a multidisciplinary approach to modern-day medical practice with judicious use of radiological assessment and histological analysis.

CASE PRESENTATION

A 69-year-old gentleman presented to the emergency department with a tender right-sided scrotal swelling. At presentation, he gave a recent history of minor trauma to the scrotum. His medical history included transitional cell carcinoma of the bladder previously treated with radiotherapy in 1986 and a metallic aortic valve replacement for which he was anticoagulated with warfarin.

INVESTIGATIONS

On examination he had a large right-sided, tender, irreducible inguinoscrotal mass, measuring approximately 10×8 cm², which did not transilluminate and no cough impulse was present, otherwise the abdomen was soft and non tender. No inguinal lymphadenopathy was noted at this time.

Blood tests were performed which revealed a white cell count 11.4 and C reactive protein 104, International Normalised Ratio (INR) was 5.3, other blood tests were within normal limits.

Ultrasound imaging of the scrotum revealed a 12×7 cm mass of mixed echogenicity with several cystic spaces within areas of increased echogenicity. This was deemed consistent with a haematoma displaying evidence of liquification. Blood flow to the testis was not assessed at this stage.

No further imaging was deemed necessary and he was observed for a 48-h period before discharge with a corrected INR.

He re-presented 2 days following discharge with uncontrollable pain and increased swelling to the scrotum. At this stage he was clinically diagnosed with an infected scrotal haematoma. Parenteral antibiotics were started and a repeat ultrasound scan was performed. On this occasion the imaging was interpreted as showing an incarcerated inguinal hernia with both small and large bowel seen within a hernial sac, of note, blood flow to the testis was assessed and documented as normal.

DIFFERENTIAL DIAGNOSIS

At this stage, the main differential diagnoses were scrotal haematoma secondary to trauma in an anticoagulated patient and incarcerated inguinoscrotal hernia. The possibility of a testicular torsion or an epididymo-orchitis were also considered, however there was no suspicion of a malignant lesion at this time.

TREATMENT

In view of the diagnostic uncertainty and patients deteriorating clinical condition an emergency right groin exploration was performed. Operative findings were reported as a large scrotal haematoma and a clinically infarcted right testicle with an inflamed necrotic spermatic cord. The viability of the testis was assessed with stab incisions, these failed to bleed and the testis was deemed non-viable. The haematoma was evacuated and a right inguinal orchiectomy performed through the groin incision.

OUTCOME AND FOLLOW-UP

Subsequent histological analysis of the resected specimen revealed features consistent with a grade 3 myxofibrosarcoma of the spermatic cord and testicular infarction.

Staging investigation with CT revealed no distant metastases and no nodal involvement.

The patient and relevant imaging was discussed at the regional sarcoma multidisciplinary team meeting; the possibility of residual tumour was raised. He subsequently underwent further groin dissection with excision of residual disease followed by localised radiotherapy to the groin. He is now 12 months post surgery and there is no

clinical evidence of recurrence, continued follow-up with MRI is planned.

DISCUSSION

On review of the literature, there are only two previously reported cases of myxofibrosarcoma of the spermatic cord; a case from Japan¹ and a case of para-testicular myxofibrosarcoma from Turkey.² Of note, there has been one previously reported case of a spermatic cord sarcoma presenting as a presumed incarcerated inguinoscrotal hernia by Hsu *et al.*³ However, myxofibrosarcoma of the spermatic cord is a rare condition.

Sarcomas represent approximately 1% of malignancies overall with a slight male predominance. Myxofibrosarcoma is one of the most common sarcomas in the extremities of elderly people and is characterised by a high frequency of local recurrence. High grade tumours also carry a risk of distant metastases.⁴

Myxofibrosarcoma is recognised macroscopically as a gelatinous nodule. It is characterised histologically by hypocellular areas with conspicuous thin walled curvilinear vessels. The tumour has a background myxoid matrix within which atypical spindle cells may be prominent (figures 1 and 2). Occasional stellate cells with bubbly, vacuolated cytoplasm may also be identified. These cells contain acid mucin rather than lipid, so-called pseudolipoblasts. True lipoblasts as would be seen in liposarcoma are not seen in myxofibrosarcoma. The major differential diagnoses include reactive fibroblastic processes and liposarcoma. These classical features were present in our case of myxofibrosarcoma.^{5 6}

The treatment of myxofibrosarcoma varies depending on the site and size of the tumour. Surgical excision is usually the first-line treatment. Radiotherapy and chemotherapy are also available as adjuvant or neoadjuvant therapies. They may also be considered as the sole treatment for inoperable cases. Follow-up with MRI is recommended.

The history of previous radiotherapy to the bladder, and therefore high likelihood of the spermatic cord involvement in the radiotherapy field may be a contributing factor to the development of this rare sarcoma.

Figure 1 Low-power view showing a nodule of tumour with a myxoid appearance with prominent small curvilinear blood vessels. Varying degrees of cellularity can be appreciated.

Figure 2 High-power view showing highly pleomorphic, hyperchromatic spindle cells with prominent curvilinear vessels.

This case demonstrated the importance of thorough history-taking, and casting wide differential diagnosis. The conflicting reports of serial ultrasound scans, with similar description of images highlighted the operator-dependent nature of these scans, with interpretation of imaging results in case-specific context being reliant on adequate case discussion and active involvement of the radiology department.

It is likely that the patient had a haemorrhagic event, secondary to the minor trauma, and exacerbated by the coagulopathy and presence of tumour. The presence of an infarcted testicle and cord ensured that a specimen was sent for histological analysis. It would be quite usual not to send tissue felt to be organising haematoma for histological analysis and in this situation this approach would have led to a potential missed or delayed diagnosis

Learning points

- ▶ Casting wide differential diagnoses.
- ▶ Interpreting imaging results within the clinical context.
- ▶ Sending all specimens for histological analysis.

Competing interests None.

Patient consent Obtained.

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