Clinical History:

A 52-year-old man presented to his general practitioner with a firm left testicular swelling, which he found by chance whilst having a shower. There was no associated pain nor skin changes, no preceding history of infection/inflammation or trauma was noted. An urgent ultrasound examination was requested.

Imaging Findings:

Scrotal ultrasound identified a 42x17x28mm well defined, non-tender, hypoechoic/slightly heterogeneous lesion superiorly and separate to the left testicle/epididymis, displaying central hypervascularity associated with a small hydrocele. Right-sided tiny simple epididymal cysts were noted, no other abnormality was seen.

The patient was promptly seen by urologists and consented to radical surgical removal. Histological examination of the excised left testicle and cord showed a tumour with solid white surface in the mid portion of spermatic cord, which was completely excised.

Initially reported as a benign leiomyoma locally, specialist opinion from a referral centre evaluated this lesion as a low grade leiomyosarcoma due to high cellularity, focal atypia and very occasional mitotic figures. Subsequent CT and MRI imaging at the specialist sarcoma centre showed no metastatic disease in the chest, abdomen or pelvis. The patient remains under close follow-up and is well 8 months post surgery with no evidence of recurrence/metastatic disease.

Discussion:

Spermatic cord lesions are rare and mostly benign, but malignancy rates of 30% are reported [1-4].

The commonest spermatic cord lesions are lipomas (45% of all para-testicular lesions), which are variable in size but typically hyperechoic on ultrasound. MRI/CT can contribute to diagnostic certainty. Asymptomatic lesions may safely be left in situ due to rarity of sarcomatous transformation [5].

Leiomyomas are the second most common neoplasm of the epididymis (6%) with variable sonographic appearances ranging from solid to cystic +/- presence of calcifications, with a hydrocele in up to 50% [5].

Leiomyomas of the spermatic cord are rare with only a limited number of cases published. These lesions arise from smooth muscle cells, most commonly in the inguinal part of the spermatic cord [5]. They usually affect men aged 40 to 60 years and typically present as a very slow-growing painless mass, but a case of elongated thickening of the spermatic cord has also been published [3]. Ultrasound findings most commonly describe a hypoechoic lesion, which may contain cystic/heterogenous areas, possibly small areas of calcification and a reactive hydrocele. Most leiomyoma case reports reviewed do not detail colour Doppler vascularity, but hypervascularity was demonstrated in a case of epididymal leiomyoma [6].

This presented case was initially thought to represent a benign leiomyoma but on specialist review was categorised
as a low grade leiomyosarcoma (Trojani Grade I).

5-10% of all soft tissue sarcomas are leiomyosarcomas, which also arise from smooth muscle cells and most commonly present in the 6th-7th decade [7]. Patients typically present with a firm non-tender enlarging lesion, sited in the scrotal part of the spermatic cord [5]. Ultrasound appearances vary but lesions are most commonly hypoechoic to heterogeneous, may be partly cystic, can contain calcifications and may be associated with a hydrocele. Lesions are typically hypervascular on colour Doppler [1, 2, 7]. CT/MRI is needed in staging patients to exclude nodal metastatic disease or distant (most commonly lung) metastasis [5]. Recurrence rates are high, therefore close follow-up is recommended, in particular when adjuvant radiotherapy was not administered [7]. In conclusion: Ultrasound is unable to differentiate between a leiomyoma or leiomyosarcoma, histological examination is required.

Other differential diagnosis of para-testicular masses include:
Benign lesions such as adenomatoid tumours, scrotal haemangiomas and papillary cystadenomas.
Malignant lesions such as liposarcomas, rhabdomyosarcomas, malignant schwannomas and metastasis.
Lesions mimicking true mass lesions are: fibrous pseudotumour, sclerosing lipogranuloma, polyorchidism and splenogonadal fusion [5].

**Differential Diagnosis List:** Vas deferens leiomyosarcoma, Vas deference leiomyoma, Metastasis

**Final Diagnosis:** Vas deferens leiomyosarcoma

**References:**


Figure 1

**Description:** Left testis and epididymis  
**Origin:** Dr C Nyhsen, Radiology Department, Sunderland Royal Hospital, Sunderland, UK
Description: Left testis and epididymis
Origin: Dr C Nyhsen, Radiology Department, Sunderland Royal Hospital, Sunderland, UK
Figure 2

Description: Left supra-testicular lesion  
Origin: Dr C Nyhsen, Radiology Department, Sunderland Royal Hospital, Sunderland, UK
Description: Left supra-testicular lesion
Origin: Dr C Nyhsen, Radiology Department, Sunderland Royal Hospital, Sunderland, UK
Description: Right testis with small epididymal cysts

Origin: Dr C Nyhsen, Radiology Department, Sunderland Royal Hospital, Sunderland, UK