Multiple Cysts of the Tunica Vaginalis Testis Presenting as Painful Scrotal Masses: A Case Report

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ABSTRACT

Multiple cysts of the tunica vaginalis testis are rare. They present as paratesticular masses that can mimic other paratesticular lesions. It may be painless or painful. Aetiology is unknown. Excision and histological examination will confirm this lesion and exclude others. We report a 21-year-old man who presented with a painful right hemiscrotal multiple cystic masses which were excised and sent for histological examination (H/E Stain). Result showed multilocular cystic tissue lined by simple cuboidal epithelium with cysts containing clear fluid. He made a successful recovery and was seen in clinic at 2-weeks and then 6-months with no problem. Conclusion: Excision of these masses, appropriate histology and follow-up is the mainstay of management.

Keywords: Tunica vaginalis, Painful, Scrotal masses.

Introduction

The tunica vaginalis testis forms the serous covering of the testis. It is derived from the processus vaginalis which is an out-pouching of the peritoneum as the testis descends to the scrotum via the inguinal canal in the foetus. After testicular descent, the processus vaginalis obliterates leaving the lower portion that invests the surface of the testis and reflects to cover the internal surface of the scrotum. It therefore has both visceral and parietal layers. The visceral layer covers the testis and epididymis, the parietal layer which is more extensive is covered by a layer of simple cuboidal mesothelial cells. The cavity of the tunica vaginalis testis exists between these two layers and is normally lubricated by serous fluid.

Lesions of mesothelial origin such as tunica cyst, mesothelioma, adenomatoid tumour may involve the tunica vaginalis. Cyst may be solitary or multiple (as in the index case), painless or painful.

Case Report

A 21-year-old undergraduate presented in our facility with painful multiple swellings in the right hemiscrotum of two months duration. Pain was non-radiating and the masses were increasing in size and number over time. There was no known aetiologic factor.

On examination, he was healthy looking and obese with a body mass index of 32. Vital signs were within normal range. There were no objective signs in all the systems except in the scrotum. He had normal male pattern of hair distribution and an adult sized phallus. The left hemiscrotum appeared apparently normal, no tense cystic swellings ranging from 1 cm to about 2.5 cm in diameter, not attached to the testis or the cord. It was mildly tender and brilliantly transilluminated (Figure 1). Other structures appeared normal, no dilated veins.
Scrotal ultrasound scan showed a right testicular size of 3.6x1.6x2.5cm (volume 14. cm$^3$), normal echo texture and multiple cystic dilatations attached to the tunica vaginalis (Figure 2). Colour Doppler scan showed no flow in the dilated cysts. Seminal fluid analysis prior to scrotal exploration revealed oligospermia of 2.6 million cells/ml and a repeat one week after was 1.7 million cells/ml. As a follow up of the above, a hormonal profile was requested and hyperprolactinaemia was reported [prolactin level of 557.9miu/l (31-433)]. He had received a 6-month course of tabs bromocryptine. Serology for HIV was non-reactive; his Haemoglobin was 14.9g dl. Urinalysis result was normal and urine microscopy, culture and sensitivity yielded no growth after 48 hours.

Patient underwent right hemi-scrotal exploration surgery revealing multiple cystic lesions of the visceral tunica vaginalis which were completely excised and sent for histology (Figure 3). The testis, epididymis and spermatic cord were all normal. The wound was closed in layers with satisfactory post operative period. Histopathology result showed multilocular cystic tissue lined by simple cuboidal epithelium. Cysts were filled with clear fluid (Figure 4). Patient was reviewed 2-weeks and 6-months post operatively with no problem.

**Discussion**

Tunica vaginalis cyst or mesothelial cyst is a type of benign paratesticular cystic lesion. It is extremely rare. The exact cause is unknown but a history of trauma, hemorrhage or infection may be present. They may be small and painless. Larger cysts can cause pain by compressing the testicular parenchyma as in the index case and can also present as a paratesticular mass. The cyst can twist on its pedicle and present as an acute scrotum. It has been reported in the paediatric age group as well as in adult, usually lined by a single layer of cuboidal cells. Mesothelial cells that line the tunica vaginalis testis can give rise to benign cystic mesothelioma and also well differentiated papillary mesothelioma, malignant mesothelioma and adenomatoid tumours. Endometriosis in a mesothelial cyst of the tunica vaginalis has also been documented. Therefore a histological...
examination of the excised cyst is mandatory to differentiate and classify these lesions for appropriate follow up of each case.

The index case was a benign cyst. Mesothelial cyst may also occur in the peritoneum7,8 and usually affects young to middle aged patient. This is because the tunica vaginalis is a protrusion of the peritoneum that obliterates to cover the testis. A few cases involving the spermatic cord, the serosal surface of the pleura and the pericardium have been described.

Tunica vaginalis cyst can be confused with tunica albuginea cyst clinically which arises from the fibrous layer that closely covers the testis. It is also believed to be from the mesothelia and are characteristically located in the upper anterior or lateral aspect of the testicle.9 Radiologically, it can be seen also as an anechoic para-testicular cyst. Intra-operatively, the two conditions can be distinguished by their locations and attachments.

Tunica vaginalis cyst (mesothelial cyst) has a higher recurrent rate that has been reported to be 27-75% in three months to Nineteen years after initial resection.10 Although it is not malignant, patient should be monitored. No definite time table has been spelt out, but patient should be evaluated if symptoms recur and managed accordingly.

**Conclusion**

Tunica vaginalis cyst is a benign lesion. It may be single or multiple, usually painless but may be painful as in the index case. It may mimic other paratesticular masses, but that can be settled intra-operatively and most importantly after histological examination of the cystectomy specimen.

**References**


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