An Unusual Cause of Acute Scrotum in a Child

Abstract:
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Acute non-traumatic scrotal pain in children, commonly due to a torted testicular appendage (hydatid of Morgagni) or torted epididymal appendage is well described. These vestigial embryonal duct remnants are of M’...lierian and Wolffian duct origin respectively. Very rarely, the other infrequently encountered Wolffian duct remnants known as the paradidymis or organ of Girald’s and the superior and inferior aberrant ducts known as the organs of Haller can become torted. We describe the presentation, management and diagnosis of a torted embryonal remnant arising from the distal spermatic cord.

Introduction
Acute non-traumatic scrotal pain in children is commonly due to a torted testicular or epididymal appendage, intravaginal testicular torsion and epididymoorchitis in that order of frequency. We report an unusual torted cystic structure arising from the distal spermatic cord and presenting as acute scrotal pain.

Case Report
A nine year old autistic Irish boy presented with a 36 hour history of pain followed by swelling of his left testicle. There was no preceding history of trauma and no urinary symptoms. On examination, the left hemiscrotum was mildly erythematous and the left testis was enlarged, tender, and felt soft and compressible; the lie however appeared normal. He proceeded to immediate scrotal exploration with a provisional diagnosis of a necrotic left testicle due to intraabdominal torsion of the testes. At surgery, it was noted that the testicle was normal and had a normal testicular appendage on its upper pole. However, arising from the distal portion of the left spermatic cord was a cystic necrotic structure measuring 30cm x 30cm. This was twisted 360 degrees on a short stalk and it was excised at its base. The contralateral testis was not explored. The histopathology of the specimen revealed a hollow unicocular cystic structure with no solid components and devoid of epithelial lining. One side of the cyst wall was bordered by mesothelial cells focally, and within the cyst wall focally, there was a morule of epithelial cells consistent with a cyst of the epididymis. The location of these structures in relation to the testis, epididymis and cord must be specified to enable the pathologist in making a diagnosis.

Discussion
Genital embryonal duct remnants in males are predominantly either the vestigial remnant of the paramesonephric (M’...lierian) duct which is a testicular appendage located on the upper pole of the testes and commonly called the hydatid of Morgagni or the vestigial remnant of the mesonephric (Wolffian) duct which is located on the head of the epididymis. They are found in roughly 75% and 20% of the population respectively. Furthermore, one large series reported 93.3% and 21.5% sessile testicular and epididymal appendages respectively while 6.7% and 78.5% were stalked testicular and epididymal appendages respectively. When stalked, these appendages are susceptible to torsion resulting in ischaemic necrosis and manifesting clinically as acute scrotal pain. The other genital embryonal remnants very infrequently encountered are the paradidymis (organ of Girald’s) located on the distal spermatic cord and the superior and inferior aberrant ducts (organs of Haller) located near the upper and lower poles of the testes respectively.

They are both vestigial mesonephric duct remnants and have been reported to very rarely undergo torsion causing acute scrotal pain. As evident in the above case, unlike intravaginal testicular torsion, torsion of the organ of Girald’s like torsion of the testicular and epididymal appendages usually has an insidious onset of symptoms, but unlike a torted testicular or epididymal appendage has not been reported associated with a blue dot sign on visual inspection of the upper scrotum. Structures of M’...lierian and Wolffian origin have been described to have unique histological features, however it is often impossible to distinguish between these two embryonal remnants. Therefore, the location of these structures in relation to the testis, epididymis and cord must be specified to enable a diagnosis. In the case we describe, based on the intraoperative finding of a necrotic structure arising from the distal end of the spermatic cord, an extremely rare torsion of the paradidymis was diagnosed.

In conclusion, apart from torsion of the testicular and epididymal appendages that surgeons are familiar with, the organs of Girald’s and Haller can very rarely undergo torsion. The treatment is simple excision and a proper description of its location will facilitate the pathologist in making a diagnosis.

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