
CASE REPORT

Abdominoscrotal Hydrocele: an Uncommon Entity in Adults Presenting with Lower Abdominal and Scrotal Swelling

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ABSTRACT

Abdominoscrotal hydrocele is an uncommon clinical entity that is infrequently reported in adults. Abdominoscrotal hydrocele consists of scrotal and abdominal components that are connected through the inguinal canal. This report is of a 36-year-old man with abdominoscrotal hydrocele and the characteristic imaging findings are discussed.

Key Words: Adult; Testicular hydrocele; Tomography, X-ray computed; Ultrasonography

INTRODUCTION

Abdominoscrotal hydrocele (ASH) is an uncommon clinical entity, accounting for only 0.17% of all types of hydrocele.¹ ASH presents as a dumbbell-shaped giant hydrocele that occupies the scrotum and extends into the abdominal cavity through the inguinal ring, with either an intraperitoneal or retroperitoneal component. ASH is usually unilateral, but bilateral involvement has also been described.² This report is of a patient with an ASH extending from the abdomen to the scrotal region through the right inguinal canal.

CASE REPORT

A 36-year-old previously healthy man presented in 2005 with insidious onset of lower abdominal and scrotal swelling, associated with a dull dragging pain. He had no history of fever or trauma.

At clinical examination, there was a mildly tender lump in the right iliac region, which extended cranially towards the umbilicus and caudally into the right inguinal

region (Figure 1). Cross fluctuation was demonstrated between the abdominal and scrotal swelling. The right testis was not palpable but the left testis was normal.

An urgent ultrasound examination showed a large anechoic cystic lesion extending from the abdomen to the scrotal region through the right inguinal canal (Figure 2a). Both testes were present and were normal in size (Figure 2b). The right kidney showed mild hydronephrosis. Coronal reformatted computed tomography (CT) confirmed and delineated the extent of the ASH (Figure 3). The patient underwent uneventful excision of the hydrocele sac through an inguinal approach.



Figure 1. Abdominoscrotal swelling in the right lower quadrant of the abdomen extending into the right groin and scrotum.

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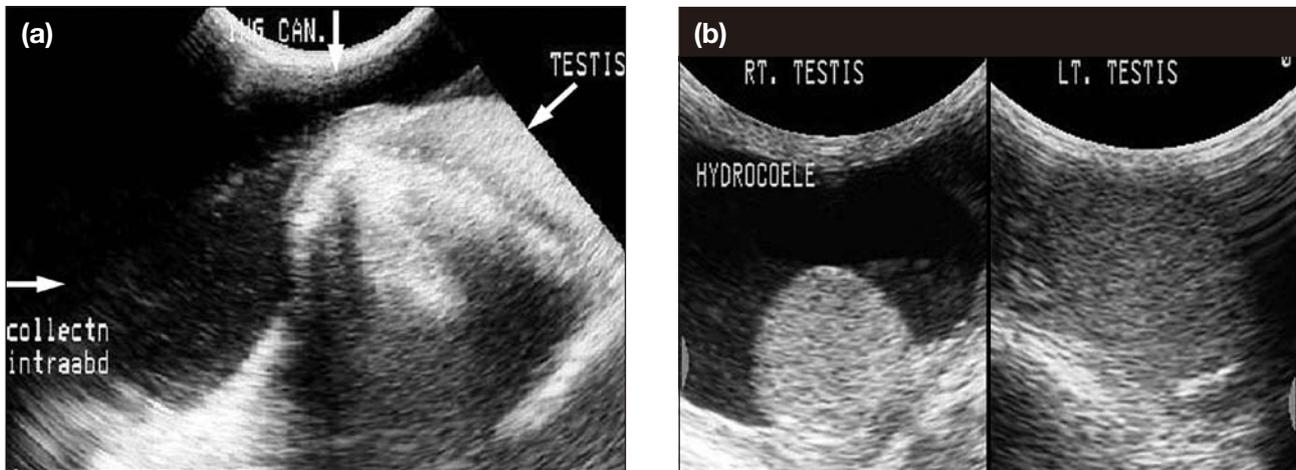


Figure 2. Grey scale longitudinal ultrasound image of the (a) abdomen and (b) scrotal region showing a large dumbbell-shaped abdominoscrotal hydrocoele with a central constriction at the inguinal ring. The testis is compressed. The fluid is clear and no internal septations or solid component is seen. No ascites is present in the abdomen and pelvis.

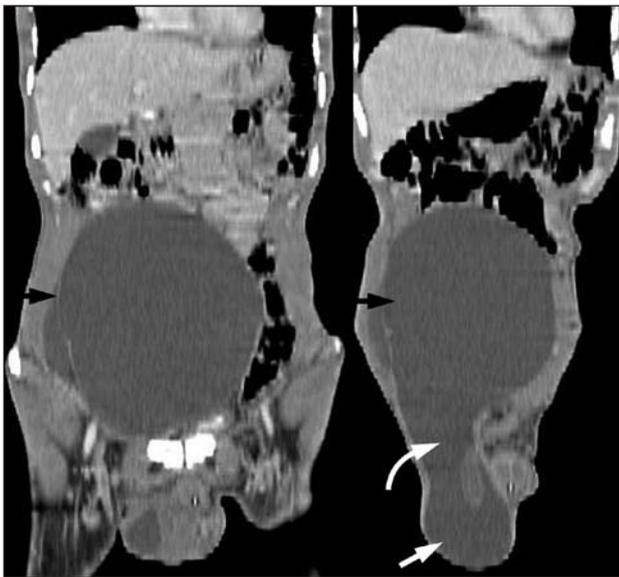


Figure 3. Contrast-enhanced coronal reformatted computed tomography images of the abdomen and pelvis demonstrating the extent of the abdominoscrotal hydrocoele (black arrows, abdominal component; curved white arrow, inguinal canal; white arrow, scrotal component). The cystic mass is well capsulated and extends from the abdomen through the inguinal canal to the scrotum. No ascites is present in the abdomen and pelvis. No solid component suggestive of neoplasm is present.

DISCUSSION

Dupuytren first described ASH in 1834 as ‘hydrocele enbissac’ (collections of fluid in the tunica vaginalis, which extends from the scrotum to the abdominal cavity).³ The proposed pathogenesis of ASH is related to partial obliteration of the processus vaginalis, which serves as a 1-way valve to ‘pump up’ the scrotal portion of the hydrocele with intraperitoneal fluid during episodes of high intra-abdominal pressure. At times, when the intrascrotal pressure exceeds the intra-abdominal

pressure, the proximal (intra-abdominal) portion of the hydrocele expands, thus the ASH becomes a dumbbell configuration with central constriction at the inguinal ring. The diagnosis can be made clinically by bimanual palpation of an hourglass mass. Cross-fluctuation between the scrotal and abdominal swelling is pathognomonic.

Ultrasound is usually adequate to confirm the diagnosis. Typically, ultrasound demonstrates encapsulated anechoic fluid collection extending from the abdomen to the scrotal cavity through an inguinal ring. However, if the relationship between the abdomen and the scrotal sac cannot be clearly delineated, then CT or magnetic resonance imaging (MRI) via the multiplanar approach would help to delineate the full extent of the ASH. For uncomplicated ASH, CT shows a hypodense collection while MRI shows normal fluid signal within the hydrocele. For complicated ASH with haemorrhage, based on signal intensities, MRI is useful for excluding other pathologies such as testicular tumour, vas deferens cyst, or lymphangioma by demonstrating absence of other tissue components within the collection.

Complications of ASH are common and are usually secondary to pressure effects on the adjacent structures, such as hydronephrosis or unilateral leg oedema as a result of compression on the ureter and iliac vein, respectively.^{4,5} Imaging would be useful to rule out complications. Rarely, morphological testicular changes and interference with spermatogenesis has been reported.⁶

In conclusion, ASH is an uncommon entity of hydrocele, but the imaging features on both ultrasound and

CT are characteristic so the correct diagnosis can be obtained.

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