Massive Abdominoscrotal Hydrocele

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Case Report

A 67-year-old man with a history of severe alcoholic cirrhosis was referred for large, bilateral hydrocele (fig. 1). He described significant discomfort with ambulation, along with generalized abdominal and scrotal pain and pressure. Physical exam demonstrated a recessed penis without edema, with the glans visible only with scrotal compression. The scrotum was tense and transilluminated, with non-palpable testes and no induration or erythema. When the abdomen and scrotal masses were palpated simultaneously pressure was noted to transfer between the examiner’s hands.

The patient underwent scrotal ultrasonography, revealing an anechoic abdominal fluid collection communicating with associated bilateral hydroceles. Subsequent computerized tomography (CT) demonstrated large bilateral hydroceles, significant abdominal ascites, and clear communication between scrotum and peritoneal cavity (fig. 2). This patient was not a surgical candidate due to his severe liver disease, so scrotal support and large volume paracentesis were recommended for palliation. Up to eight liters of fluid were removed at a time with minimal improvement of the hydroceles until he quickly expired from his liver disease.

Discussion

Dupuytren first described the phenomenon of abdominoscrotal hydrocele in 1834, which he termed “I hydrocoele en bissac” [1]. Since that time cases of ASH, especially bilateral ASH, have rarely been published. Reports have typically focused on the pediatric population, along with a small number of adults under 40 years of age.
ASH is generally benign, and is characterized by a scrotal hydrocele in communication with an abdominal component through the inguinal canal [1, 2]. The diagnosis for ASH is made clinically through bimanual palpation. Cross-fluctuation between the scrotal and abdominal swelling is pathognomonic, and ultrasonography confirms the initial suspicion. Ultrasonography can be concomitantly utilized to evaluate the upper urinary tract for hydronephrosis and hydroureter secondary to the compression from the abdominal component. CT or magnetic resonance imaging may also be utilized for confirmation, and are useful in demonstrating the dumbbell shape of the ASH through the inguinal canal.

Controversy over the pathogenesis of ASH persists. In the adult population, it has been proposed that fluid secreted by the tunica vaginalis results in increased intraluminal pressure in the proximal processes vaginalis, which transmits through the internal inguinal ring and into the abdominal cavity. This process follows Laplace’s Law as the radius of the fluid collection increases the inward pressure decreases, allowing the fluid ASH to continue to expand [2, 3]. It has been suggested that the classic ASH is most accurately described as a “scrotal-inguino-abdominal hydrocele” [1]. In the present case, the patient’s genital exam was significant for an enlarged, fluid-filled scrotum likely secondary to communication with the abdominal cavity. The increased intraabdominal pressure resulted in fluid migration through the inguinal canal to form the bilateral hydroceles. This alternative pathogenesis may accurately be called “abdominal-inguino-scrotal hydrocele”.

In general, surgical correction is the treatment of choice. Though a number of approaches have been recommended, total excision of the abdominoscrotal hydrocele is often done through an inguinal approach. This includes evacuation of fluid with resection of tunica vaginalis [2, 4, 5]. However, due to our patient’s comorbid liver disease, he was judged to be a poor surgical candidate and a palliative approach was undertaken.

Fig. 1. Image of patient demonstrating large abdominal ascites and resulting scrotal hydrocele.

Fig. 2. CT of abdomen/pelvis reveals massive abdominal ascites with large bilateral communicating hydroceles.
References


