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Bilateral abdominoscrotal hydrocele in an infant

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Summary

Abdominoscrotal hydrocele (ASH) is a rarity among surgical pathologies. We herein report a bilateral case of ASH. We also point out that ASH should be considered in the differential diagnosis of lower abdominal masses.

Key words: *Hydrocele, peritoneum*

Introduction

ASH was first recorded over a century ago but does not appear in standard pediatric surgical textbooks. The lesion was first described by Dupuytren in 1834. Since than up to 18 ASH cases under age of one were reported [1,4,5,8]; most of these cases affect only the one side. Squire reported a 12 week old infant with bilateral ASH in 1988 [10]. We report a 3 1/2 month-old boy with bilateral ASH treated surgically. The case serves to remind this rare pathology in the differential diagnosis of lower abdominal masses.

Case report

A 3 1/2-month-old boy was hospitalised with the diagnosis of lower abdominal mass. He was followed since birth for bilateral hydrocele and noticed to develop lower abdominal masses. At physical examination of the scrotal and groin areas bilateral large hydrocele and bilateral, round, well-defined masses, 5 to 6 cm in diameter were found (Fig. 1). The masses seemed separated by a septum in the midline. Both scrotal areas could be transilluminated. Palpation of the masses and hydroceles on each side gave the impression of continuity as they filled reciprocally, and also independently from the other side. Compression of the scrotal hydrocele on one side increased the pressure in the abdominal mass of the same side, suggesting the diagnosis of bilateral ASH.

We performed sonography (US) and computerized tomography (CT) to verify the diagnosis. US revealed that the masses on each side were cystic (Fig. 2). Abdominal CT with coronal and sagittal reconstructions showed bilateral hydrocele and bilateral cystic masses extending into the abdomen and contiguous with the hydrocele sacs (Fig. 3).

This is defined as hourglass appearence since it has two large portions, one in scrotum and one in abdomen and a narrow portion inbetween created by the inguinal canal with the tunica vaginalis extending through. The patient was operated through transverse inguinal incisions. The left ASH ruptured and partially emptied, was dissected as a sac. The hydrocele on the right side ruptured and also dissected completely. We inserted penrose drains to each scrotum and kept them for two days postoperatively. Pathologic examination of the specimen revealed no malignancy.

Discussion

ASH is a collection of fluid within the tunica vaginalis extending through the inguinal canal into the abdominal cavity [1]. Some reports propose the pathogenesis as: **1)** upward extension of the scrotal hydrocele exerting cranial pressure in the scrotal compenent (when this pressure exceeds the intraperitoneal pressure of 4 to 6 cm the abdominal portion of the hydrocele appears), **2)** expansion of a high infantile hydrocele in which the processus vaginalis is obliterated only at the level of the internal inguinal ring [9], and, **3)** a possible existence of a flap valve mechanism somewhere along the course of the processus vaginalis. The hydrocele would then continue to ex-

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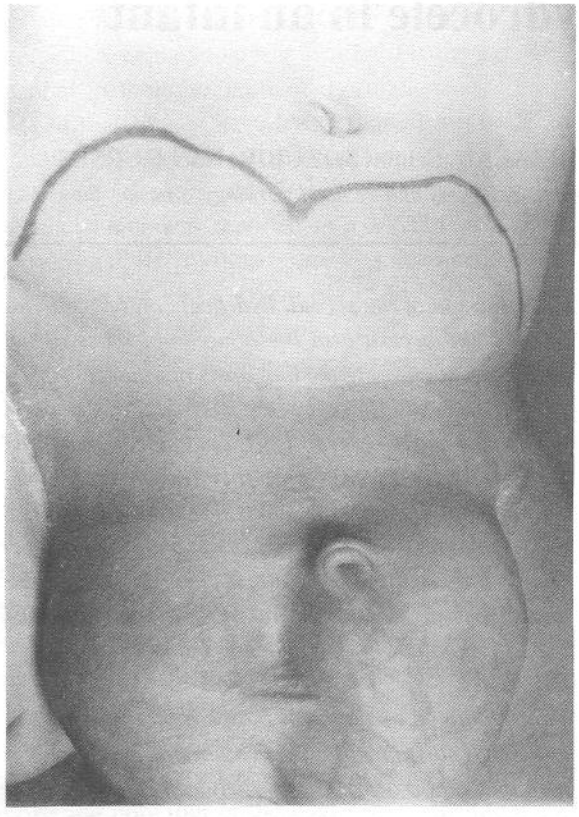

Figure 1. Extent of bilateral masses in the abdomen.

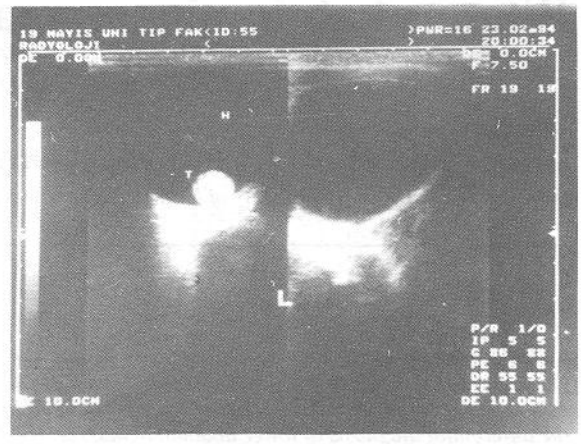

Figure 2. Ultrasonic appearance of cystic masses in the abdomen and hydroceles.

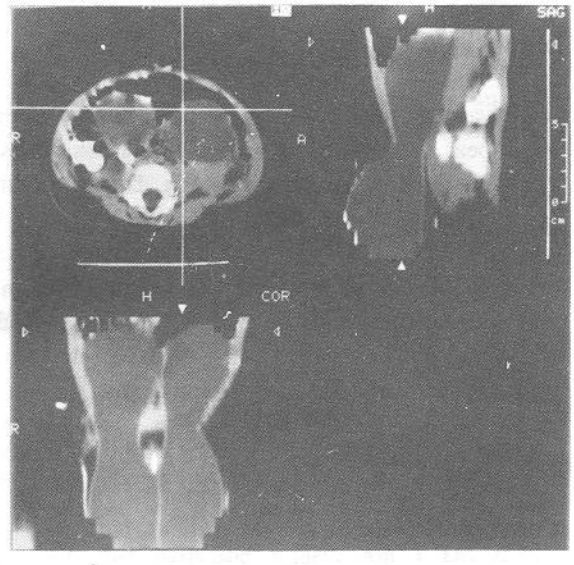

Figure 3. Reconstructed coronal (right) and saggital (left lower picture) CT images demonstrating connection between the sacs and the abdominal cystic masses.

pand and develop into the abdominal cavity with the creation of an abdominoscrotal hydrocele [7]. The hydrocele may extend forward anteriorly to the peritoneal cavity or posteriorly to the retroperitoneal space [6]. Retroperitoneal ASH are more common in childhood [7].

The presented case is one of the rare bilateral ASH reported and also one of the youngest [2]. The right and the left scrotal regions were reported equal frequency [7]. ASH should be considered in the differential diagnosis of lower abdominal masses together with ascites, lymphocele, mesenteric cyst and gastrointestinal duplication cyst as well as massive hydronephrosis, abdominal cystic hemangioma and other neoplastic masses. Laparotomy is indicated when the diagnosis is uncertain or the intra-abdominal portion of the hydrocele is large [3]. Pathological examination of the specimen is important, because paratesticular malignant mesothelioma was reported in association with ASH [11]. In conclusion, the hourglass appearence on US and CT could lead to a diagnosis of ASH and this rare pathology should be kept in mind in the differential diagnosis of the lower abdominal mass.

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