Abdominoscrotal hydrocele with ipsilateral hydroureteronephrosis in an adult: A case report

Pawan Kumar Singh¹, Ashish Kumar Chaudhary², Vijay Kumar Gupta³

From ¹²Professor, III Junior Resident, Department of General Surgery, GSVM Medical College, Kanpur, Uttar Pradesh, India

ABSTRACT

Abdominoscrotal hydrocele (ASH) is very rare in adults and difficult to suspect on clinical examination. ASH is a very unusual presentation of scrotal hydrocele with extension intra-abdominally through the inguinal canal either communicating to the peritoneal cavity or non-communicating. An ASH is a congenital pathology involving a scrotal hydrocele expanding through the inguinal canal and reaching the abdominal cavity. Here, we present the case of a 25-year-old man admitted with a complaint of pain and lump in the left lower abdomen for 2 months and swelling in the left groin for 2 years. Ultrasound and computed tomography suggest left ASH with left-sided hydroureteronephrosis. A left DJ stent was placed and on exploration, a large cystic mass was seen intraperitoneally extending into the scrotum through the inguinal canal. Excision of the abdominal part and partial excision of the scrotal part were done with eversion of the remaining tunica vaginalis sac. Although ASH is a rare entity, it should always be kept on the list of differential diagnoses during the complaint of large abdominal mass in adults.

Key words: Abdominoscrotal hydrocele, Hydrocele, Infantile hydrocele

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Raised serum urea (60 mg/dL), creatinine (1.7 mg/dL), and normal liver function test, as well as, other laboratory investigations.

The patient was planned for surgery. On retrograde pyelography, the left ureter was seen dilated and tortuous (Fig. 2b) and left-sided DJ stent was placed. A lower midline incision was given and a large cystic mass was found to adhere to the sigmoid colon. Adhesiolysis was done and the cyst was seen extending into the inguinal canal. Another incision was given over the left inguinoscrotal region and cord structures were separated from the cyst. A large cystic lesion in the abdomen extending into the inguinoscrotal region in a dumbbell shape was clearly visible (Fig. 3). The abdominal part was totally excised, the scrotal part was partially excised, and the eversion of the remaining tunica vaginalis sac was done. Bassini repair was also performed.

The post-operative period was uneventful and the patient was discharged on post-operative delirium 3. The histopathological report confirmed the diagnosis of ASH.

**DISCUSSION**

ASH is a hydrocele that extends into the abdominal cavity forming two intercommunicating sacs. Many terms and hypotheses have been proposed to characterize ASH until the formulation of the commonly used current term. ASH is common in age groups <5 years in pediatrics and 60% younger than 1 year [7]. ASH is a congenital anomaly of the processus vaginalis [8]. Mostly, it starts from birth as an inguinoscrotal hydrocele that extends to the abdomen. However, it could be misdiagnosed and pass to adulthood.

Many postulated hypotheses suggest the formation of an abdominal sac. Dupuytren postulated that the abdominal sac is an upward extension of a scrotal hydrocele through the inguinal canal under excessive intrinsic pressure [2]. Jacobson postulated that ASH is an intra-abdominal extension of an infantile hydrocele obliterated processus vaginalis at the internal inguinal ring [5]. Roller suggested that two co-existing hydroceles such as an encysted hydrocele of the cord and an ordinary hydrocele may form ASH, but he did not explain how intercommunication occurs. This hypothesis may explain the cases of ASH with separated sacs [9]. Macewen postulated that a preformed peritoneal sac as a persistent patency of the deepest portion of the funiculo-vaginal sheath inside the pelvis is responsible for the abdominal sac which distends forming an intraabdominal hydrocele and extends downward.

Clinically, ASH starts as a painless and progressively increasing scrotal or inguinocrotal swelling followed by another abdominal swelling without a definite timing for the start or detection [10]. Contralateral simple hydrocele is a common finding with pediatric ASH [5]. Cryptorchidism or testicular ectopia is one of the most common congenital anomalies with ASH [11]. Sporadic urinary and extra-genitourinary congenital anomalies have been reported in association with ASH. Lymphedema is a relatively frequent presentation with ASH. It results from the compression of veins and lymphatics and the co-existence of indirect inguinal hernia with ASH reported in the literature [12].

Diagnosis of ASH is done by clinical examination and imaging techniques. Positive transillumination tests and cross-fluctuation between the abdominal and the scrotal collections are the clinical hallmarks of ASH diagnosis. USG is the first choice to demonstrate the communication between two components; however, in selected cases, USG may be inadequate and in these
contrast-enhanced CT or magnetic resonance imaging could be used to demonstrate the extension of the hydrocele through the inguinal canal into the abdominal cavity. In our case, USG was enough to make the diagnosis, and hence, contrast-enhanced CT was used. The differential diagnoses include spermatic cord lymphangioma, giant hydronephrosis extending into the true pelvis, bladder diverticulum, and pelvic neuroblastoma [13]. Sometimes, ASH may be confused with a large, complete, indirect inguinal hernia [14].

The reported management is by surgical excision. Different approaches have been described like paramedian laparotomy, an inguinal or inguinoscrotal approach. In difficult cases, the pre-peritoneal approach had been described which facilitates the complete removal of abdominal components [2].

CONCLUSION

ASH is a rare cause of abdominoscrotal swelling, which has different etiological hypotheses and multiple clinicopathological variants. Clinical examination and USG are initial modalities sufficient to make diagnoses but CT is required to prove intercommunication and other associated complexities. Since ASH is a rare condition, surgeons should always keep in mind as a differential in lower abdominal cystic mass lesions. Despite available minimally invasive techniques for treatment, complete excision of the sac through open techniques remains the standard approach.

REFERENCES


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