



ABDOMINOSCROTAL HYDROCELE (ASH) IN ADULT- A RARE CASE REPORT

General Surgery

Ajay Kumar*

Junior resident Surgery, RIMS Ranchi *Corresponding Author

Prof.(Dr.)

Dipendra Kumar Sinha

Surgery, RIMS, Ranchi

ABSTRACT

An Abdominoscrotal hydrocele is a rare clinical entity in which there is a large hydrocele that extends from the scrotum into abdominal cavity through the inguinal canal in dumbbell shaped. Abdominoscrotal condition usually affecting children. It is unusual to find an abdomino-scrotal hydrocele in middle aged adult. Most of the patients are asymptomatic except cystic abdominal mass and discomfort occasionally. We hereby report an unusual presentation of abdomino-scrotal hydrocele at age of 54 years and presenting as large cystic abdominal mass extending into scrotum.

KEYWORDS

Abdominoscrotal-hydrocele, Cystic mass, Computed-tomography

Abdominoscrotal hydrocele (ASH) is very rare clinical condition. Most patients are younger than 5 years. Fluid-filled cavities in both abdominal and scrotal compartments with communication through inguinal canal are diagnostic of abdominoscrotal hydrocele.

- A) Preoperative image
- B) CT scan image
- C) Intraoperative image
- D) Postoperative Day -5

Case Report

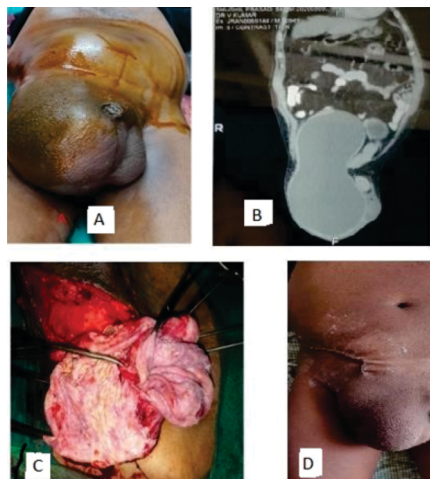
A 54 year male presented with progressive abdominoscrotal swelling for 17 years. Distension was confined predominantly in lower half of the abdomen. Swelling was noticed over right scrotum in the beginning, but it gradually extended upwards involving lower abdomen. The swelling was associated with dull aching pain in lower abdomen and right inguinoscrotal region. He had no history of fever and trauma. On clinical examination, a well defined large lump noted in lower abdomen extending to scrotum on right side through right inguinal canal. Both abdominal and scrotal swellings revealed cross-fluctuation.

Ultrasound of abdomen showed large cystic abdominal mass confined to lower half and large right-sided hydrocele. Abdominal CT confirmed the finding of abdominoscrotal hydrocele.

Total excision of the abdominoscrotal hydrocele was done. The surgical approach was through an inguinal approach. Complete evacuation of fluid with resection of tunica vaginalis and ligation of the peritoneal cavity was done. Total excision of sac was necessary to prevent recurrence. The

postoperative recovery was uneventful. Histopathological examination of cyst wall revealed fibrous tissue and collagen bundles.

Examination of fluid was grossly, microscopically and cytologically consistent with hydrocele fluid.



DISCUSSION

Abdominoscrotal hydrocele was described for the first time by Dupuytrenas 'hydrocele-en-bissac' in 1934^[1]. Abdomino scrotal hydrocele (ASH), also known as hydrocele - en-bisac. Abdominoscrotal hydrocele is a rare clinical condition where large scrotal hydrocele communicates with abdominal component, through narrow inguinal canal in an hourglass fashion^[1-3]. The etiology of abdominoscrotal hydrocele is unknown. Different theories such as one way valve theory, diverticulum theory and displacement as per Laplace's law have been described to explain the pathogenesis^[2,4]. However, the most accepted theory is the one which suggests that the obliteration of processus vaginalis results in fluid accumulation in tunica vaginalis which results in increased intrascrotal pressure. When intrascrotal pressure exceeds the intra-abdominal pressure inguinal portion of a large hydrocele is pushed into the low-pressure abdominal compartment through the inguinal canal, forming a dumbbell configuration with central constriction at the inguinal ring. Most patients are asymptomatic except for the swelling as in the present case. However, occasional pain and bladder symptoms have been reported^[3]. Diagnosis of abdominoscrotal swelling can be made out clinically by performing cross fluctuation between scrotal and abdominal swelling, which is pathognomonic^[1,3,4]. Most cases are unilateral but bilateral cases have been reported^[5] and most patients are younger than 5 years. Simple cystic abdominoscrotal mass may be presenting feature^[6] or it may be discovered due to compression on adjoining structures e.g. hydronephrosis^[6,7] unilateral leg oedema^[8]. Partial torsion of abdominal component may lead to acute abdomen^[9].

Different conditions may resemble abdomino-scrotal hydrocele creating a diagnostic dilemma e.g. mesenteric cyst, urachal cyst, pseudopancreatic cyst, hydatid cyst, lymphangioma, and hydronephrosis. Mesenteric cysts are cystic and mobile if situated in leaf of mesentery. Huge urachal cyst occurs in adult and may be associated with urinary problems. Pseudopancreatic cyst occurs after acute pancreatitis and abdominal pain is definitely preceded. Hydatid cyst is gradually progressive abdominal distension of longer duration. Upper abdomen is commonly involved and lower abdomen is rarely involved in hydatid cyst.

Lymphangioma may give rise to cystic abdominal mass with swelling occupying Retroperitoneal region predominantly. Hydronephrosis usually gives rise to cystic abdominal mass in advanced cases when destruction of renal cortex & accumulation of fluid turns kidney into a bag of water. Cystic abdominal masses should be examined and USG of abdomen should be done to establish the nature of the swelling e.g. cystic & complex cystic and extension of swelling e.g. retroperitoneal,

intraperitoneal, properitoneal. Diagnosis is usually established by USG in most cases. Some cases may require computed tomography (CT), magnetic resonance imaging (MRI) and injection of contrast into cyst to help in diagnosis.

Clinical diagnosis can be confirmed by ultrasonography which is the first imaging modality of choice to demonstrate the communication between scrotal and abdominal components^[4,10]. Typically, ultrasound demonstrates encapsulated anechoic fluid collection extending from the abdomen to the scrotum through an inguinal ring^[2,10,11]. Ultrasound can describe the testes as well, so that any abnormalities like testicular dysmorphism and ectopia can be ruled out^[11]. In selected cases ultrasonography may be inadequate and in these cases Computed tomography scan is an appropriate imaging modality to diagnose cases of abdomino-scrotal hydrocele^[12]. Computed tomography may be helpful for more anatomical delineation and hourglass appearance of the communication can be demonstrated better^[2,13]. MRI evaluation gives valuable information over the extension of hydrocele and its effect on the underlying structures^[3,12].

The surgical approach for abdomino-scrotal hydrocele may be abdominal, inguinal, scrotal & combined. Excision of the abdominoscrotal hydrocele is the treatment of choice. Small abdominal component may be approached through inguinal & scrotal route. Large abdominal component requires laparotomy to avoid injury to the vas deferens and testicular artery. Excision of the sac, ligation of the peritoneal cavity and repair of the inguinal canal are important components of surgery. Scrotal approach is recently being recommended^[14] but inguinal approach remains the best due to effectiveness in dealing both scrotal as well as abdominal components. There is no report of recurrence after surgery and spontaneous resolution has never been reported.

REFERENCES

- [1] Gadelkareem RA. Abdominoscrotal hydrocele: A systematic review and proposed clinical grading. *African Journal of Urology*. 2018;24(2):83-92.
- [2] Singh G, Pandey A, Verma A, Gupta A. Abdominoscrotal hydrocele: A rare cause of a cystic abdominal mass in children. *Formos J Surg*. 2018;51(2):88-90.
- [3] Srinivasan R, Drage M, Olsburgh J. Management of Abdominoscrotal hydrocele (ASH)/Scrotal-Inguino-Retroperitoneal (SIR) hydrocele in a renal transplant patient. *Journal of Surgical Case Reports*. 2017;2017(10):rjx203.
- [4] Kamble PM, Deshpande AA, Thapar VB, Das K. Large abdominoscrotal hydrocele: Uncommon surgical entity. *International Journal of Surgery Case Reports*. 2015;15:140-42.
- [5] Nagar B, Kessler A. Abdominoscrotal hydrocele in infancy: a study of 15 cases. *Pediatr Surg Int* 1998; 13: 1898; 189-90.
- [6] Saharia PC, Bronsther B, Abrams MW. Abdomino-scrotal hydrocele. Case presentation and review of literature. *J Pediatr Surg* 1979; 6: 713-4.
- [7] Meabed A, Koko AH, Onuora VC, et al. Abdomino-scrotal hydrocele. *Br J Surg* 1992; 69: 547-8.
- [8] Krasna IH, Solomon M, Merzrich R. Unilateral leg edema caused by the abdominoscrotal hydrocele- elegant diagnosis with MRI. *J Pediatr Surg* 1992; 27: 1349-51.
- [9] Gupta RL, Mital VK, Rajdan JL. Abdominoscrotal hydrocele. *Int Surg* 1971; 55: 45.
- [10] Czerwinski K, Brzowski M, Majkowska Z, Mosior T, Roszkowska-Blaim M, Warchol S. The abdominoscrotal hydrocele in the infant- case report. *Polish Journal of Radiology*. 2014;79:108-11. doi:10.12659/PJR.890148.
- [11] Blackwell RH, Kouri A, Ellimootil C, Bresler L, Turk TMT. Massive Abdominoscrotal Hydrocele. *Current Urology*. 2013;7(2):110-12.
- [12] Walker MR, Ernest AJ Jr, McMann LP. Hydrocele: an atypical presentation of metastatic sarcomatoid renal cell carcinoma. *Can J Urol*. 2011;18(3):5742-44.
- [13] Halilbasic A, Hotic N, Skokic F, Husaric E, Rahmanovic E, Halilbasic M. Both-sided large abdominoscrotal hydrocele associated with testicles atrophy. *Med Arh*. 2011;65(3):182-84.
- [14] Belman AB. Abdominoscrotal hydrocele in infancy. A review and presentation of the scrotal approach for correction. *J Urol* 2001; 165: 225-7.