

Abdominoscrotal Hydrocele

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Citation

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Abstract

Abdominoscrotal hydrocele consists of scrotal and abdominal component that are connected in an hourglass fashion at the internal ring. It is rare variety of hydrocele. We report a case of abdominoscrotal hydrocele due to its rarity and also because of difficulty in making diagnosis in the presence of large abdominal component.

INTRODUCTION

Abdominoscrotal hydrocele (ASH) refers to giant hydroceles that occupy the scrotum and extend into the retroperitoneal space through inguinal ring in a dumbbell shape (1). It is a rare variety of hydrocele accounting for only 0.17% of all types of hydrocele (2). We are reporting a case of ASH due to rarity and difficulty in its diagnosis in the presence of large abdominal component.

CASE REPORT

38yr male presented with swelling of scrotum for 4 years and swelling in lower abdomen for last one month with no history of fever or trauma. Abdominal examination revealed 20x16cms non-tender intraabdominal smooth cystic lump in hypogastrium extending to right iliac fossa reaching upto the umbilicus. Lower part of the swelling was continuous into the right inguinal region. Inguinoscrotal examination revealed a globular swelling of 15x8cms in right inguinoscrotal region (fig.1). It was not possible to get above the swelling. Cough impulse was absent. Swelling was brilliantly transilluminant. There was a cross fluctuation present between the abdominal and scrotal swelling. Left testis was undescended and felt in the inguinal canal.

Figure 1

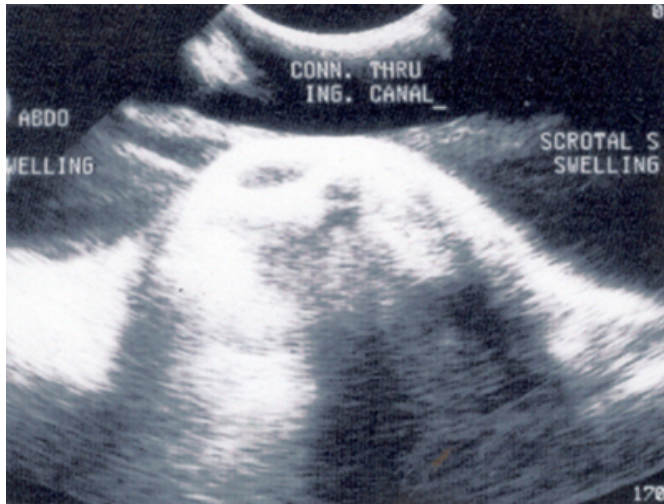
Figure 1: Photograph showing abdominoscrotal swelling with large abdominal component.



Laboratory investigations were normal. Ultrasound showed a large cystic lesion present in the abdominoscrotal region with communication through the right inguinal canal, cyst showed anechoic lumen with no solid component. Right testis was seen in the scrotum. Left testis was seen in inguinal canal (fig.2). Surgery was done through transverse incision. Sac was exposed and aspirated and separated from the peritoneum through blunt dissection. Right testis was also delivered out through the same incision and redundant sac was excised. Eversion of right sac and left orchidopexy was done. Haemostasis maintained and drain secured on right side, which was removed on third post-operative day. The postoperative recovery was uneventful.

Figure 2

Figure 2: Ultrasound showing communication between the abdominal and scrotal swelling through in inguinal region.



DISCUSSION

ASH consists of scrotal and a large intraperitoneal or retroperitoneal hydrocele component that connects in an hourglass or dumbbell shaped fashion at the internal ring. Dupuytren first described it in 1834 as hydrocele enbissac. It is usually described in adult but few reports are also described in children. They may occur bilaterally (4). The etiology of development of ASH is controversial. There are two theories (a). The hydrocele is pushed back from the scrotum through the inguinal canal into an extraperitoneal intra-abdominal site and (b) the distension starts very high intra abdominally and extends through the inguinal canal into the scrotum. Both these theories rely on the concept of partially obliterated process vaginalis, which serves as a one-way valve so that episodes of high intra abdominal pressure “pump up” the hydrocele with intraperitoneal fluid. This one-way valve theory is now discounted because of the non-patent process vaginalis in ASH of children. Thus the patient with obliterating process vaginalis only at the level of internal ring and not along its whole length, the pressure is transmitted proximally from the taught scrotum into the tubular inguinal canal. When intra scrotal pressure exceeds intra-abdominal pressure, the proximal portion of sac expands, as dictated by the Laplace law of fluid dynamics. Finally the ASH takes dumbbell shaped configuration with the central portion constricted by the inguinal canal.

The diagnosis is made clinically with a bimanual examination of hourglass mass. Cross fluctuation between the scrotal and abdominal swelling is diagnostic. Ultrasound gives the exact extent of the lesion. CT scan or MRI may be

required in complex or doubtful situation. Complications in ASH are not uncommon and usually arise secondary to pressure effects on contiguous structures. These include unilateral leg edema and hydronephrosis from pressure on surrounding ureters and iliac veins (3). The morphologic testicular changes with interference with spermatogenesis have been reported. The rare complications include development of torsion of upper lobe of sac and malignant mesothelioma. The differential diagnosis in most of ASH is lymphangioma of cord, giant hydronephrosis extending into true pelvis, bladder diverticulum and pelvic neuroblastoma. However the presence of cross fluctuation is diagnostic of ASH and not seen any of these conditions.

The excision of sac is recommended for ASH. The various incisions have been described. The most common is the inguinal or inguinoscrotal incision the median or paramedian incision for direct access to the abdominal component. This incision should allow safe excision of abdominal or inguinoscrotal components of hydrocele, repairs of communicating peritoneal attachments and dilated inguinal ring. Aspiration of hydrocele fluid facilitates exploration. Total excision of sac is necessary to prevent recurrence.

ASH is a rare entity and may be readily diagnosed by physical examination. Ultrasound gives the exact extent of sac. CT and MRI are prescribed in complex or doubtful cases. Complete excision of sac is recommended to prevent recurrence.

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References

1. Gupta SK, Shukla VK, Roy SK. Abdomino-scrotal hydrocele. J Postgrad Med. 1988; 34; 174-75.
2. Broadman HR, Broadman LEB, Broadman RF. Etiology of abdominoscrotal hydrocele. Urology. 1997; 10: 564-65.
3. Mahomed AA, Stockdate EJ, Varghese J, Youngeson GG. Abdominoscrotal hydrocoeles: little place for conservatism. Pediatr Surg Int. 1998; 13: 186-88.
4. Serels S, Kogan S. Bilateral giant abdominoscrotal hydroceles in childhood. Urology 1996; 47: 763-65.
5. Belman BA. Abdominoscrotal hydrocele in infancy: a review and presentation of the scrotal approach for correction. J. Urol. 2001; 165: 225-27.
6. Krasna IH, Solomon M, Mezrich R. Unilateral leg edema caused by abdominoscrotal hydrocele: elegant diagnosis by MRI. J Pediatr Surg 1992; 27: 1349-51.
7. Klin B, Efrati Y, Mor A, Vinograd I. Unilateral hydroureteronephrosis caused by abdominoscrotal hydrocele. J Urol. 1992; 148: 384-6.

8. Dandapat MC, Padhi NC, Patra AP. Effect of hydrocele on testes and spermatogenesis. *Br J Surg* 1990; 77: 1293-4.
9. Gupta RL, Mital VK, Razdan JL. Abdominoscrotal

hydrocele. *Int Surg*. 1971; 55: 45-8.

10. Wlochynski T, Wassermann J, Generowicz Z. Abdominoscrotal hydrocele in childhood. *J Pediatr Surg*. 1993; 28: 248-50.

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