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A Rare Case of Huge Abdomino-Scrotal Hydrocele

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ABSTRACT
Abdominoscrotal hydrocele (ASH) is rare entity in adults and difficult to suspect on clinical examination. Clinical examination of the patient with inappropriate history adds to the diagnostic dilemma for this condition leading to various differentials and dependence on radiological investigations for its diagnosis. We report a case of, 19-year-old male presented with scrotal swelling and gradually progressing abdominal distension since six months. Based on clinical and radiological findings a diagnosis of abdominoscrotal hydrocele was made, which was later confirmed with CECT abdo pelvis and MRI. Patient underwent inguinal exploration for abdominoscrotal hydrocele with laparoscopic assisted procedure. Postoperative course was uneventful. Complete excision of pathological processus vaginalis and complete drainage of hydrocele is must to prevent recurrence. Laparoscopy assistance can help in confirming complete excision and drainage of ASH.

INTRODUCTION

Abdominoscrotal hydrocele (ASH) is a congenital pathology involving a scrotal hydrocele expanding through the inguinal canal and reaching the abdominal cavity. Abdominoscrotal hydrocele (ASH) is rare in adults and difficult to suspect on clinical examination. Clinical examination of the patient with inappropriate history adds to the diagnostic dilemma for this condition leading to various differentials and dependence on radiological investigations for its diagnosis. The patients are generally asymptomatic but ASH can have complications related to the compression of adjacent structures, such as hydronephrosis, hydroureter, testicular dysmorphism, testicular torsion, altered spermatogenesis, spontaneous rupture, hemorrhage and testicular malignant transformation[1,2].The treatment is ordinarily surgical. Different approaches have been described like paramedian laparotomy, an inguinal or inguino-scrotal approach. We report a case of huge abdominoscrotal hydrocele in a young male.

Case report: A 19-year-old male presented with bilateral scrotal swelling and gradually progressing abdominal distension since six months, there was no history of trauma, pain or retention of urine in surgery OPD at Swami Ramanand Tirtha Rural Government Medical College And Hospital, Ambajogai. On clinical examination, a huge abdominal mass extending from the inguinal crease to costal margin was revealed along with bilateral scrotal swelling. The skin overlying swelling was shiny, oedematous. The scrotum was tense and the swelling was cystic in consistency. There was no definite expansile cough impulse in the swelling. Swelling It was an irreducible swelling, with non-palpable testis. Cross fluctuation was positive between abdominal and scrotal components. The patient underwent abdominoscrotal ultrasonography, revealed a large well defined cystic lesion without internal septation/ soft tissue component/ calcification is seen occupying right scrotal sac and extending into peritoneal cavity, reaching cranially up to epigastric region. Mass effect seen on urinary bladder, adjacent bowel loops in the form of smooth peripheral displacement. Both testes, epididymis normal. Further evaluation by CECT abdomen is recommended Based on clinical and radiological findings a diagnosis of abdominoscrotal hydrocele was made, which was later confirmed with MRI.

MRI abdomen and pelvis noted that, there is very large thin walled cystic mass lesion seen in abdomen and pelvis extending from infra-renal region to scrotum on right side causing severe mass effect over urinary bladder and right ureter, measures 34 x 18 x 12 cms (SI X ML X AP respectively). It appears hyperintense on T2WI and hypointense on TIWI. No solid component is noted. The right testis appears normal. Left testis and scrotum is normal. Very large thin walled cystic mass lesion seen in abdomen and pelvis extending from infra-renal region to scrotum on right side causing severe mass effect over urinary bladder and right ureter, most likely s/o communicating hydrocele. Patient underwent inguinal exploration for abdominoscrotal hydrocele with laparoscopic assisted procedure. Under anaesthesia there was evidence of hydrocele sac with abdominal extension till epigastric region. No evidence of any intraabdominal adhesions. Inguinal incision taken, scrotal sac identified, hydrocele sac separated from scrotal sac. Scrotal sac opened, approximate 1 liter fluid suctioned and sac clamped. 10 mm infra umbilical port inserted and abdomen inspected for any adhesions. Fluid was suctioned out from the abdominal component, cystic swelling separated from inguinal content and defined by inguinal approach. Cord sheath identified and separated from scrotal component. Hydrocele excised as much as possible, everted and sutured with vicryl 1.0. Marsupialization of sac done and remaining component sutured. Abdominal visualization done by laparoscopy, hemostasis confirmed. Incision closed in layers. Postoperative course was uneventful.

RESULTS AND DISCUSSIONS

Abdominoscrotal hydrocele (ASH) consists of a large inguinoscrotal hydrocele that communicates in an hour-glass fashion with a large intra-abdominal component. Different theories such as valve theory, diverticulum theory and displacement as per Laplace's law have been described to explain the pathogenesis[1,3]. 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[1,4]. According to the systematic review by R.A. Gadelkareem[5], collected total number of abdominoscrotal hydrocele cases was 579; 360 pediatrics, 208 adults and 11 cases of non-reported age. They commented that, ASH is really more common than reported, but it is still rare among both pediatrics and adults and mainly reported as case reports[5,6]. Clinically, ASH starts as a painless and progressively increasing scrotal or inguinoscrotal swelling followed by another abdominal swelling

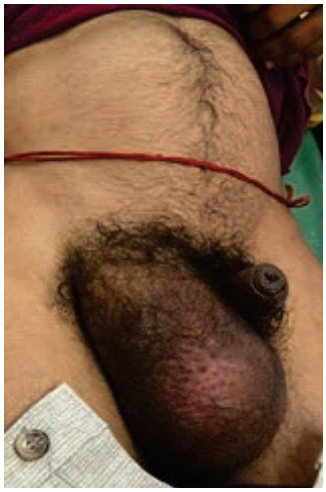

Fig. 1: A huge abdominal mass extending from inguinal crease to costal margin along with bilateral scrotal swelling

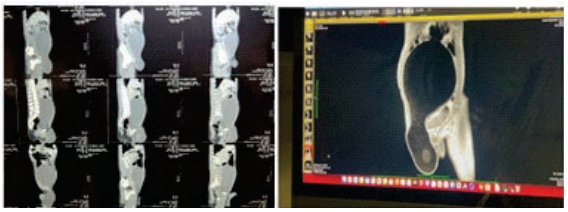

Fig. 2: Very large thin walled cystic mass lesion seen in abdomen and pelvis extending from infra-renal region to scrotum on right side causing severe mass effect over urinary bladder and right ureter, most likely s/o communicating hydrocele

Fig. 3: Intra-operative image showing scrotal content of abdominoscrotal hydrocele (ASH)

without a definite timing for the start or detection[7]. Diagnosis of ASH is done by clinical examination and imaging techniques. Positive transillumination tests

Fig. 4: Post-operative image showing gross reduction in abdominoscrotal swelling

and cross-fluctuation between the abdominal and the scrotal collections are the clinical hallmarks of ASH diagnosis. The differential diagnoses include spermatic cord lymphangioma, giant hydronephrosis extending into the true pelvis, bladder diverticulum and pelvic neuroblastoma[8]. Sometimes ASH may be confused with large, complete, indirect inguinal hernia[9]. Many therapeutic interventions have been reported for the treatment of ASH. Generally, open surgical treatment is performed for normal scrotal hydrocele, as very few studies have reported spontaneous remission of a scrotal hydrocele[10]. Traditional surgical interventions could be classified into; puncture or tapping drainage, incisional drainage and excision. Surgical approach is through the standard inguinal, extended inguinal, abdominal, or scrotal incisions. Abdominal and combined incisions have been employed for large abdominal component. In the recent literature, the tendency toward inguinoscrotal and scrotal approaches is more noticeable[11]. Laparoscopic exploration has been used to confirm the diagnosis of ASH, rule out associated hernia, and confirm adequate peritoneal closure at the level of the internal ring[12]. Laparoscopic excision or marsupialization of the abdominal portion of an ASH is sufficient for treatment and the approach is a practical surgical alternative that may reduce the morbidity associated with extensive dissection[13,14].

CONCLUSION

Abdominoscrotal hydrocele remains very rare entity, MRI evaluation gives valuable information over the extension of hydrocele and its effect over the underlying structures. Complete excision of pathological processus vaginalis and complete drainage of hydrocele is must to prevent recurrence. Laparoscopy assistance can help in confirming complete excision and drainage of ASH.

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