



Encysted Hydrocele of the Cord in a Nineteen-Year-Old Male Mimicking Irreducible Inguinal Hernia: A Case Report

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Author's contribution

The sole author designed, analyzed, interpreted and prepared the manuscript.

Article Information

Editor(s):

(1) Dr. Ramesh Gurunathan, Sunway Medical Center, Malaysia.

Reviewers:

(1) Aswini K Pujahari, Rajiv Gandhi University of Health Science, India.

(2) Flavia Regina Bueno, Brazil.

(3) Faisal Ahmed, Yemen.

Complete Peer review History: <https://www.sdiarticle4.com/review-history/71704>

Case Study

Received 15 May 2021

Accepted 21 July 2021

Published 22 July 2021

ABSTRACT

Hydrocele of the spermatic cord is a rare anomaly that occurs as a result of abnormal closure of the processus vaginalis during the descent of the testis into the scrotum. It is rarely seen in adults. There are two forms of a spermatic cord hydrocele: the encysted type which does not interface with the peritoneal cavity and the funicular variety that intercommunicates with the peritoneal cavity. The encysted hydrocele can be confused clinically with a number of conditions that present as groin swellings such as inguinal hernias, inguinal lymphadenopathy, and primary tumours of the spermatic cord. Presented herein is a rare case of encysted hydrocele of the spermatic cord in a 19-year-old male who presented with a right groin swelling, which clinically mimicked an irreducible inguinal hernia. The diagnosis of encysted hydrocele was made intraoperatively. Excision of the sac was performed and the patient was discharged with no complications.

Keywords: Spermatic cord; hydrocele; encysted hydrocele of cord; processus vaginalis; Case Report.

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1. INTRODUCTION

Spermatic cord hydrocele is a rare anomaly that occurs when there is abnormal closure of the processus vaginalis [1-2]. This pathology often presents as a firm, fairly mobile fluid-filled swelling in the inguinal region [1,3]. There are two types of spermatic cord hydrocele: the encysted type that does not link with the peritoneal cavity, and the funicular variety that communicates with the peritoneal cavity [4]. Only about 6% of persistent patent processus vaginalis are clinically obvious after the neonatal period. The reported incidence of encysted hydrocele of the cord ranged from 0.18% to 3.1% of all forms of hydrocele in infants and children and rarer in adults [5].

The encysted hydrocele of the cord should be differentiated from an inguinal hernia, enlarged inguinal lymph node, and lipoma of the spermatic cord [1,4]. Confirmation of the diagnosis of encysted hydrocele is made with the help of ultrasound scan or can be done intraoperatively [1].

This case report depicts the management of a rare case of encysted spermatic cord hydrocele in an adult and stresses the need to include encysted hydrocele of the cord as a differential diagnosis of groin swellings when dealing with irreducible inguinal hernia even in adults.

2. CASE REPORT

The subject was a nineteen-year-old male student who presented to our facility with a right groin swelling of two weeks duration. The swelling had gradually increased in size to its present size and it's not affected by change in position or increased intra-abdominal pressure. He developed a progressively worsening right groin pain and low-grade fever three days before presentation. Three weeks before he noticed the swelling, he was kicked on his right groin while playing football. He presented to a private health facility on account of the above complaints and was referred with a provisional diagnosis of irreducible inguinal hernia. He had no history of vomiting, abdominal distension, or constipation.

The general physical examination revealed a temperature of 37.9°C, a pulse rate of 88 beats per minute, and a respiratory rate of 18 cycles per minute. On abdominal examination, he had a firm, tender, and irreducible globular swelling in the right inguinal region measuring 4cm in its

widest diameter. This swelling was completely separate from the testis with a negative transillumination and cough impulse tests. He had normal bowel sounds with no enlarged intra-abdominal organs. The digital rectal examination was unremarkable. The full blood count, urinalysis, and electrolyte levels were essentially normal. Abdominal ultrasonography revealed a mass believed to be a segment of the small intestine in the right groin area surrounded by anechoic collection. The erect X-ray revealed no evidence of intestinal obstruction. A diagnosis of irreducible inguinal hernia was made and consent obtained for herniorrhaphy.

The patient had a right groin exploration and a sac was found connected to peritoneal cavity by an obliterated part of the processus vaginalis the at the proximal end of the sac at almost one and a half centimeters from the deep inguinal ring. A distal thin fibrotic and obliterated processus vaginalis connects the distal part of the sac to the right testis. Aspiration of the contents of the sac revealed a straw-coloured fluid (Fig. 1). Excision of the hydrocele (Figs. 2 and 3) sac was done and the wound was closed in layers. The fluid analysis was in keeping with hydrocele fluid while the histological examination of the hydrocele sac a compressed mesothelial tissue. The patient had no postoperative complications. He was discharged two days after surgery and the follow-up clinic visit has been uneventful with no further evidence of hydrocele or hernia (Fig. 4).

3. DISCUSSION

Spermatic cord hydrocele is a pathologic collection of serous or straw-coloured fluid along the spermatic cord with no communication with the scrotal sac [1,4]. It is an uncommon anomaly resulting from abnormal closure of the processus vaginalis [2-3]. Though rare, it is more common in the paediatric age group than in adults. Our patient presented with this pathology at the age of nineteen years. This makes this case report very unique.

Two common variations of spermatic cord hydrocele are widely recognized: the encysted and the funicular types [4,6]. While the funicular variety communicates with the peritoneal cavity, the encysted hydrocele is non-communicating. Both are located above the testis and result from aberrant closure of the processus vaginalis in infants and children [2,4]. When it occurs in adults, it may be idiopathic or secondary to tumour, trauma, testicular torsion, or infections

such as orchitis, epididymitis, and tuberculosis [7]. This index patient had a kick on the groin during a play three weeks before the onset of the inguinal swelling which probably resulted

in the formation of the encysted hydrocele. It is also possible that the worsened and complicated the already existing encysted hydrocele.

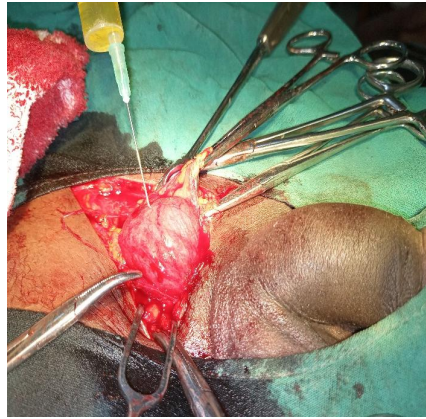


Fig. 1. Encysted hydrocele with straw-coloured aspirate



Fig. 2. Encysted hydrocele of the cord with forceps pointing at the proximal non-communicating end



Fig. 3. The excised hydrocele sac



Fig. 4. Wound healed with first intention

Clinically, spermatic cord hydrocele commonly presents with inguinal swelling [2,4]. This may be difficult to distinguish from other groin swellings like an incarcerated inguinal hernia, a paratesticular cyst or tumour, and an inguinal lymphadenopathy. The funicular type of the spermatic cord hydrocele may increase in size with an increase in intra-abdominal pressure [1]. It can be reduced into the peritoneal cavity, but it usually recurs. On the other hand, encysted hydrocele does not show any change in shape or size with changes in intra-abdominal pressure.

In a case report by Manimaran et al. [6], a 60-year-old woman presented with intermittent dull aching pain and a cystic groin swelling and was misdiagnosed as incarcerated inguinal hernia. Our patient gave a history of a gradually increasing painless right inguinal swelling which later became painful and tense necessitating his presentation. We initially made a diagnosis of irreducible right inguinal hernia, but intra-operatively, a diagnosis of encysted hydrocele of the cord was made. This diagnostic challenge was also similar to the report of Wani et al. [2], who presented a thirty-six-year-old man misdiagnosed of irreducible inguinal following a presentation with a swelling and severe pain in the right inguinal region and eventually had an intra-operative finding of encysted hydrocele of the spermatic cord. The negative transillumination test, as seen in most dark skin adults with hydroceles, may further compound this diagnostic dilemma. When there is a cystic lesion in the inguinal region, as seen in this

patient, the likelihood of encysted hydrocele of the cord should be entertained, even though it is rare in adults.

The definitive diagnosis of this rare pathology is made with the help of an ultrasound scan or can be done intraoperatively as in this index patient [2-4]. On ultrasound, hydrocele of the spermatic cord appears as an avascular, well-delineated mass that is clearly demarcated from the testis and epididymis [1][8]. It is helpful in differentiating between a hernia, an enlarged inguinal lymph node, or other solid masses [6]. This fact may depend on the experience of the sonologist to a great extent as the diagnosis was missed in this index patient. The patients should be placed in both supine and erect positions during the sonographic examination as the spermatic cord hydrocele may reduce into the abdomen depending on the patient's position [9]. In addition, computerized tomography (CT) scan and magnetic resonance imaging (MRI) are also useful in making the diagnosis of spermatic cord hydrocele [10-11]. MRI of the inguinal canal region provides additional information and improves diagnostic accuracy [11].

Excision is the hydrocele sac, as in this index patient, under general or local anaesthesia is the treatment of choice for encysted hydroceles in adults [2,4,6]. However, in infants with encysted hydrocele of the cord, conservative treatment may be undertaken since it usually resolves around their first birthday [3]. The funicular variety of the spermatic cord hydrocele is usually

treated with herniotomy. Analysis of the hydrocele fluid showed a straw-coloured fluid that is sterile in nature.

4. CONCLUSION

Encysted hydrocele of the cord is an uncommon anomaly in adults. It may mimic an irreducible hernia and should be excluded in adults with groin swellings. Whenever there is a cystic lesion in the inguinal canal, the possibility of a spermatic cord hydrocele should be borne in mind, even though it is rare in adults. Excision of the cyst is the treatment of choice.

DECLARATION OF PATIENT CONSENT AND ETHICAL APPROVAL

The author declared that the patient gave all needed consent for his clinical photographs and information to be published in the medical journal. He understands that necessary effort will be made to conceal his identity but anonymity cannot be guaranteed. The ethical approval for this work was given by the Ethical and Research Committee of the Faculty of Clinical Sciences, Edo State University, Uzairue.

COMPETING INTERESTS

Author has declared that no competing interests exist.

REFERENCES

1. Martin LC, Share JC, Peters C, Atala A. Hydrocele of the spermatic cord: embryology and ultrasonographic appearance. *Pediatr Radiol.* 1996;26:528-30.
2. Wani I, Rather M, Naikoo G, Gul I, Bhat Z, Baba A. Encysted hydrocele of cord in an adult misdiagnosed as irreducible hernia: a case report. *Oman Med J.* 2009;24:218.
3. Chang YT, Lee JY, Wang JY, Chiou CS, Chang CC. Hydrocele of the spermatic cord in infants and children: its particular characteristics. *Urology.* 2010;76:82-6.
4. Dagur G, Gandhi J, Suh Y, Weissbart S, Sheynkin YR, Smith N L, et al. Classifying Hydroceles of the Pelvis and Groin: An Overview of Etiology, Secondary Complications, Evaluation, and Management. *Curr Urol.* 2017;10:1-14.
5. Gadelkareem,RA. Abdominoscrotal hydrocele: A systematic review and proposed clinical grading. *Afr J Urol.* 2018;24:83-92.
6. Manimaran D, Karthikeyan TM, and Dost MK. Encysted spermatic cord hydrocele in a 60-year-old mimicking incarcerated inguinal hernia: A case report. *J Clin Diagnostic Res.* 2014;8:153-4.
7. Ku HJ, Kim ME, Lee NK, Park YH. The excisional, placcation and internal drainage techniques: a comparison of the results for idiopathic hydrocele. *BJU Int.* 2001;87:82-4.
8. Han BH, Cho JY, Cho BJ, Ki WW. Hydrocele of the Spermatic Cord: Ultrasonographic Findings. *J Korean Soc Med Ultrasound.* 2002;21:129-33.
9. D'Andrea A, Coppolino F, Cesarano E, Russo A, Cappabianca S, Genovese EA, et al. US in the assessment of acute scrotum. *Crit Ultrasound J.* 2013;5:S8.
10. Walker MR, Ernest AJ Jr, McMann LP. Hydrocele: an atypical presentation of metastatic sarcomatoid renal cell carcinoma. *Can J Urol.* 2011;18:5742-4.
11. Muglia V, Tucci S Jr, Elias J Jr, Trad CS, Bilbey J, Cooperberg PL. Magnetic resonance imaging of scrotal diseases: when it makes the difference. *Urology.* 2002;59:419-23.

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Peer-review history:

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