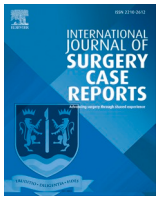
International Journal of Surgery Case Reports 107 (2023) 108374

Contents lists available at ScienceDirect

International Journal of Surgery Case Reports

journal homepage: www.elsevier.com/locate/ijscr



Case report

Encysted hydrocele of spermatic cord: A rare case report with review of literature

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ARTICLE INFO

Keywords:
Hydrocele
Encysted
Spermatic cord

ABSTRACT

Introduction: Funiculus hydrocele is an uncommon anomaly characterized by obstruction in the closure of the processus vaginalis. The two variations of funiculus hydrocele are the encysted variety that is not related to the peritoneal cavity and the funicular variety that is associated with the peritoneal cavity. We report the clinical investigation and management of a very rare case of encysted spermatic cord hydrocele in a 2-year-old boy.
Case presentation: A 2-year-old boy came to the hospital with the complaint of a lump in the scrotum for 1 year. The lump had exhibited growth and was not recurrent. The lump was painless, and the parent denied a history of testicular trauma. The vital signs were within normal limits. The left hemiscrotal was observed to be larger than the right. Palpation indicated an oval, soft, well-defined, and fluctuating impression, without tenderness, measuring 4 × 4 cm. The scrotal ultrasound showed a hypoechoic lesion measuring 2.8 × 2.4 × 4.5 cm. The patient underwent a scrotal-approach hydrocelectomy. The 1-month follow-up reported no recurrence.
Clinical discussion: An encysted hydrocele is a non-communicating inguinal hydrocele, with a collection of fluid throughout the spermatic cord, which is separate and lies above the testes and epididymis. Diagnosis is clinically important, and if any uncertainty exists, scrotal ultrasound can be used to distinguish it from other scrotal lesions. The treatment for non-communicating inguinal hydrocele in this patient was surgery.
Conclusion: Hydrocele is usually painless and rarely dangerous so it does not require immediate treatment. The treatment for hydrocele in this patient was surgery because it becomes larger.

1. Introduction

Hydrocele is the accumulation of excess fluid between the parietal and visceral layers of the tunica vaginalis. Around 10 % of newborns have a hydrocele, and it generally resolves on its own within the first year of life. It is usually painless and rarely dangerous so it does not require immediate treatment [1].

Cord hydrocele is an uncommon anomaly characterized by obstruction in the closure of the processus vaginalis. The two variations of funiculus hydrocele are the encysted variety, which is not related to the peritoneal cavity (increasing intra-abdominal pressure does not affect the size), and the funicular variety, which is associated with the peritoneal cavity (may increase in size with elevated intra-abdominal pressure and decrease when relaxed) [2]. It is crucial to distinguish between the two types of cord hydroceles since their treatment methods differ [3].

We report the clinical investigation and management of a very rare case of encysted spermatic cord hydrocele in a 2-year-old boy. This case was reported according to the Surgical CAse Report Guidelines (SCARE Guidelines) 2020 [4].

2. Case presentation

A 2-year-old boy came to the hospital with a complaint of a lump in the scrotum for 1 year. The lump had exhibited growth and was not recurrent. However, it did not exhibit growth when the patient was active during the day or during bouts of crying. The lump was painless, and the parent denied a history of testicular trauma. The vital signs were

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https://doi.org/10.1016/j.ijscr.2023.108374
Received 8 May 2023; Received in revised form 28 May 2023; Accepted 29 May 2023
Available online 1 June 2023

within normal limits. The left hemiscrotal was observed to be larger than the right. Palpation indicated an oval, soft, well-defined, and fluctuating impression, without tenderness, measuring 4 × 4 cm. Auscultation did not show bowel sounds, and the transillumination test was positive (Fig. 1A). The scrotal ultrasound showed a hypoechoic lesion measuring 2.8 × 2.4 × 4.5 cm (Fig. 1B).

The patient underwent a scrotal-approach hydrocelectomy (Fig. 2A). A 4-cm incision was made on the para raphe, on the surface of the scrotum that went deep to the tunica dartos; a fascia cremaster revealed the parietal layer of tunica vaginalis. The spermatic cord was identified, and the hydrocele sac funiculus was excised in toto to separate from the funiculus spermatic. The lump was identified as an encysted funiculus hydrocele (Fig. 2B). The 1-month follow-up reported no recurrence.

3. Discussion

The hydrocele pocket that forms can be connected to the peritoneal cavity through a small channel due to failure of the closing process and atretic degeneration of the processus vaginalis. This causes fluid from the peritoneal cavity to enter the hydrocele bag, and it will be difficult to return to the peritoneal cavity [5].

An encysted hydrocele is a non-communicating inguinal hydrocele, where a collection of fluid exists throughout the spermatic cord, which is separate and lies above the testes and epididymis. This condition is the result of an aberrant closure of the processus vaginalis. In most cases, it is idiopathic, but it may be secondary to testicular torsion, tumor, trauma, or infection [1]. The encysted cord hydrocele is a type of non-communicating hydrocele that will spontaneously subside on its own as a result of continuing changes in the processus. However, surgical intervention is necessary if it persists through infancy or manifests for the first time later in childhood. The funicular cord hydrocele is a type of inguinal hernia and should be managed as such [3].

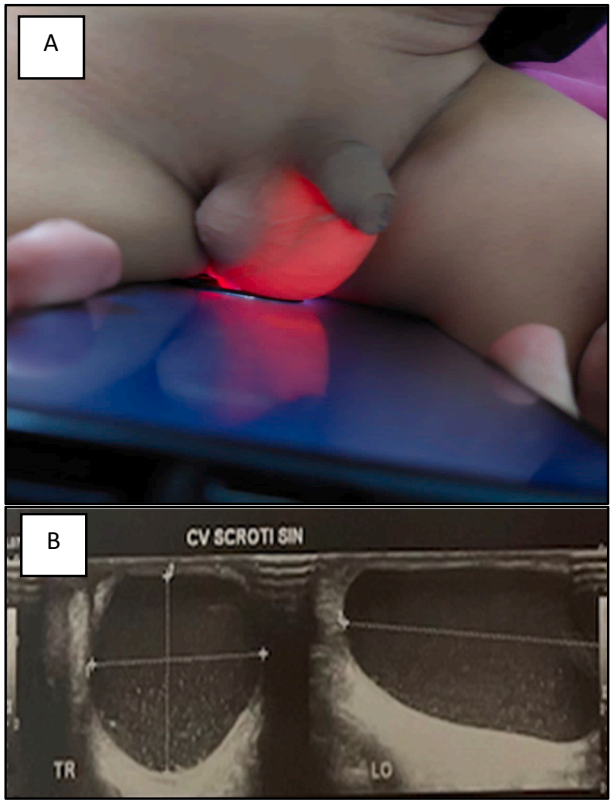

Fig. 1. A) Positive transillumination of the lump (left hemiscrotum). B) The scrotal ultrasound showed a lump (left, transversal view; right, longitudinal view).

The spermatic cord hydrocele is an avascular, finely delineated anechoic mass that is distinct from the epididymis and testis and frequently displaces them inferiorly. Within the cyst, septations have been described. In other situations, the cyst lining is thick, a condition known as pachyvaginalitis [6–8]. Diagnosis is clinically important. If there is any uncertainty, scrotal ultrasound can be used to distinguish it from other scrotal lesions, such as tumor of the spermatic cord and inguinal hernia. A computed tomography scan or intraoperative confirmation of the diagnosis can also be used. Ultrasonography can successfully diagnose spermatic cord hydrocele based on its precise location and shape. Ultrasonography can be used to rule out hernias, lymph node enlargement, and other solid tumors. A loculated collection above the testis with a closed internal inguinal ring characterizes encysted hydrocele [3,6,8].

Chang and colleagues reported 20 hydrocele cases with an age range from 38 days to 54 months. Seven cord hydroceles were of the funicular variety, five were of the encysted variety, and eight were of the mixed variety. A funicular variety was treated as an inguinal hernia, while infants with an encysted variety may only require conservative care. In the mixed variety, surgical intervention is needed to treat the processus vaginalis and hydrocele in order to avoid long-term sequelae [3].

The International Pediatric Endosurgery Group's most recent recommendations state that the majority of surgeons advise observation before the age of 12 months and that the majority of patent processus vaginalis will close within the first 12 to 24 months of life. However, they do not specify a particular recommendation for the age at which surgery should take place. According to national data from the UK, surgical procedures are most frequently performed on patients between the ages of 24 and 36 months [9]. According to a survey conducted by the American Academy of Pediatrics' Section on Surgery, the timing of surgical intervention depends on one of the following conditions: (1) it must begin in infancy but continue past one year; (2) existence of a reducible or communicative hydrocele; and (3) onset of hydrocele after 1 year of age [3]. The treatment for hydrocele in this patient was surgery because it becomes larger in size. Apart from that, from the anamnesis, the patient's parents explained that no history existed of intermittent lumps or pain.

4. Conclusion

Hydrocele is usually painless and rarely dangerous, so it does not require immediate treatment. The treatment for hydrocele in this patient was surgery because it becomes larger.

Ethical approval

Ethical review of this study was waived by the Faculty of Medicine, Universitas Hasanuddin, Makassar, Indonesia.

Funding

N/A

CRediT authorship contribution statement

Andi Makkawaru Chairul, Muhammad Asykar Palinrungi, and Muhammad Faruk: study concept and therapy for this patient. Andi Makkawaru Chairul and Muhammad Faruk: Data collection and Writing-Original draft preparation. Muhammad Asykar Palinrungi and Muhammad Faruk: Editing and Writing. All authors read and approved the final manuscript.

Guarantor

Muhammad Asykar Palinrungi

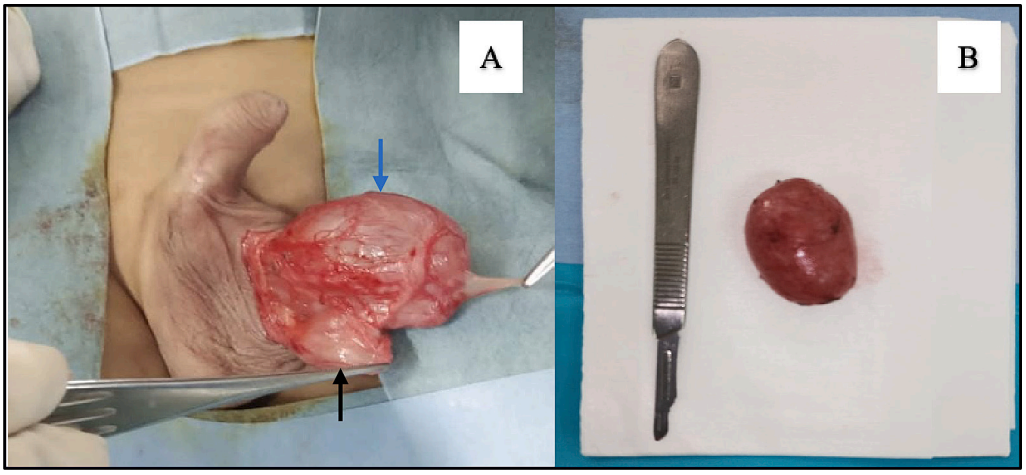

Fig. 2. A) An encysted hydrocele was identified (blue arrow), positioned above and separated from the epididymis and the testis (black arrow). B) Hydrocele cyst after removal.

Registration of research studies

N/A

Consent

Written informed consent was obtained from the patient's parents/legal guardian for publication and any accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Conflict of interest statement

N/A

Acknowledgment

None.

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