

Pediatrics

Encysted spermatic cord hydroceles in 3-year old boy, case report

Kurniadi Yusuf Sugianto

Urology Department, Hasan Sadikin Academic Medical Center, Universitas Padjajaran Bandung, Indonesia

Sawkar Vijay Pramod*

Urology Department, Hasan Sadikin Academic Medical Center, Universitas Padjajaran Bandung, Indonesia



ARTICLE INFO

Keywords:

Hydrocele cyst
Spermatic cord disease
Management

ABSTRACT

Hydrocele of the spermatic cord is a rare anomaly which occurs when closure of processus vaginalis was hampered. There are two variations of a spermatic cord hydrocele: the encysted variety that does not communicate with the peritoneal cavity and the funicular variety that communicates with the peritoneal cavity. This case report depicts the clinical investigation and management of a rare case of encysted spermatic cord hydrocele in a 3-year-old boy. Surgery is indicated if noncommunicating scrotal hydrocele does not resolve by 12–18 months of age or if it becomes larger in size.

Introduction

Hydrocele of the spermatic cord is a rare anomaly which occurs when closure of processus vaginalis was hampered.^{1,2} This condition usually presented as a firm, slightly mobile lump in the inguinal region which extends toward the scrotum.^{2–4} There are two variations of a spermatic cord hydrocele - the encysted variety that does not communicate with the peritoneal cavity, and the funicular variety that communicates with the peritoneal cavity. The encysted type should be differentiated with inguinal hernia, inguinal lymphadenopathy, undescended testis, and spermatic cord lipoma. Confirmation of diagnosis is made with the help of ultrasonographic findings or can be done intraoperatively.^{2,3} This case report depicts the clinical investigation and management of a rare case of encysted spermatic cord hydrocele in a 3-year-old boy.

Case presentation

A 3-year old boy was brought to the urology department with a chief complaint of a lump in the right inguinal region which had been present for several months. The patient denied any complaint of tenderness, infection, or bowel obstruction. Both testicles were descended. Birth history was unremarkable. There was no relevant past medical, surgical, or family history.

On physical examination, the patient's abdomen was soft, non-

tender, non-distended, and active bowel sounds were within normal limit. A firm mass measuring around 3 cm in diameter was identified in the right inguinal region. Transillumination test showed positive results while cough impulse test showed negative result (Fig. 1). Manual reduction failed to reduce the mass. The testes were descended bilaterally and were non-tender to palpation. Laboratory findings were within normal limits. Inguinal ultrasonography examination showed an anechoic cystic lesion with thin walls measuring 27 × 10 × 22 mm. No signs suggestive of herniated mass was found. Patient was diagnosed with encysted spermatic cord hydrocele and was advised to undergo an excision of the cyst.

Patient was placed on supine under general anesthesia for this procedure. A right inguinal skin crease incision was taken. On opening the external oblique aponeurosis, a 2 × 1x2 centimeters encysted hydrocele was identified at spermatic cord near the external inguinal ring. The cyst was separated from the flimsy adhesions and delivered out intact. The specimen was then sent for histopathology examination with thin thin layer of dense collagenous tissue containing elastic fibers and smooth muscle bundles and lined with mesothelium (Fig. 2). Postoperative period was uneventful, patient was discharged on the same day. On follow-up evaluation being done one week and one month after procedure patient reported no complaints.

* Corresponding author. Jl. Pasteur No. 38 Bandung Jawa Barat, 40161, Indonesia.

E-mail address: doktervj@yahoo.co.id.

<https://doi.org/10.1016/j.eucr.2021.101652>

Received 23 February 2021; Received in revised form 16 March 2021; Accepted 19 March 2021

Available online 24 March 2021

2214-4420/© 2021 The Authors.

Published by Elsevier Inc.

This is an open access article under the CC BY-NC-ND license

(<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

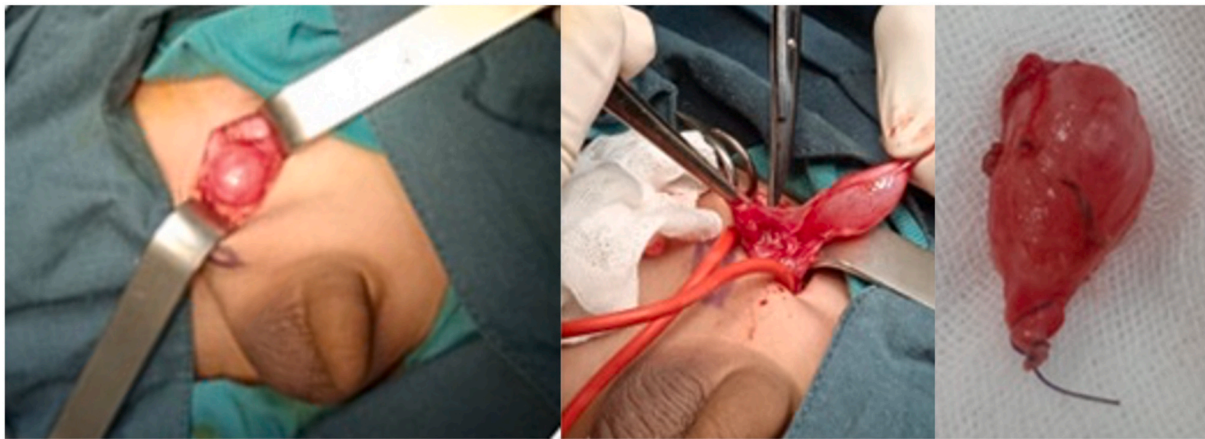


Fig. 1. An encysted hydrocele was identified at spermatic cord near the right external inguinal ring. The cyst was separated from the flimsy adhesions and delivered out intact after ligating the base(white arrow).

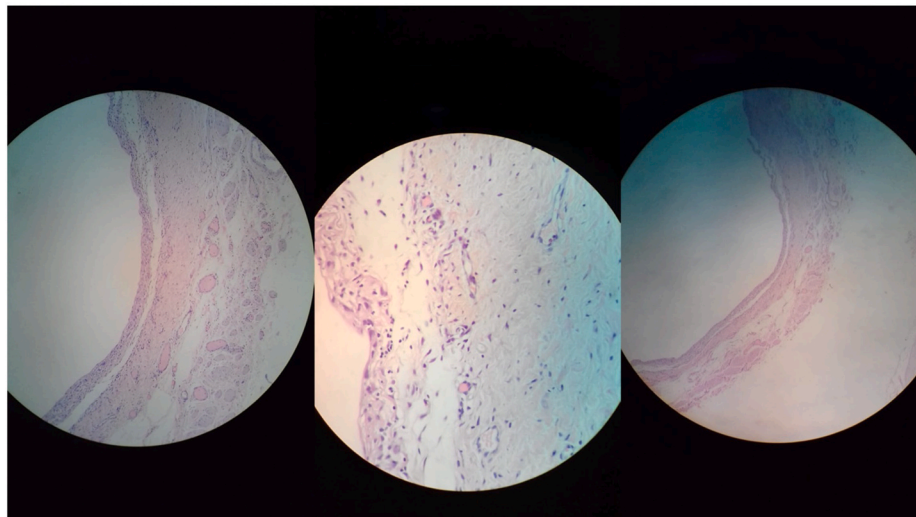


Fig. 2. Histopathology of encysted hydrocele at spermatic cord near the right external inguinal rin

Discussion

During fetal development, the testicles descend into the scrotum between 28 and 32 weeks of gestation and are enveloped by the processus vaginalis.^{1,3} The processus vaginalis normally closes at two points: proximally at the internal inguinal ring and distally above the epididymis. The distal end becomes the tunica vaginalis of the testis, while the intervening segment undergoes involution. In 20% of cases, processus vaginalis fails to close completely thus making fluid accumulate along the spermatic cord and results in hydrocele. If closure occurs at both ends, but the intervening segment fails to atrophy, then an encysted hydrocele will result.²⁻⁴

Hydrocele of the spermatic cord usually presented as a firm, slightly mobile lump in the inguinal region which extends toward the scrotum.²⁻⁴ There are two variations of a spermatic cord hydrocele - the encysted variety that does not communicate with the peritoneal cavity, and the funicular variety that communicates with the peritoneal cavity. The encysted type, a loculated fluid collection along the spermatic cord which occurs due to obliteration of the proximal and distal processus vaginalis without atrophy of the segment in between, should be differentiated from inguinal hernia, inguinal lymphadenopathy, undescended testis, and spermatic cord lipoma.⁵ Only small-sized encysted cord hydroceles are thought to be reducible because of being suspended along the spermatic cord. An irreducible cord hydrocele is easily confused with

an inguinal mass (incarcerated hernias or lymphadenopathy), and also the primary tumor of the cord. Although, it may increase in size with crying or straining, or spontaneously reduce with relaxation if there is a communication with the peritoneal cavity.^{2,4,5}

Confirmation diagnosis of this benign but rare anomaly is made with the help of ultrasonographic findings or can be done intraoperatively.^{2,3} In patients with a simple scrotal hydrocele, fluid is seen around the testis that may or may not communicate with the peritoneal cavity. Hydrocele of the spermatic cord is an avascular, sharply demarcated anechoic mass which is separate from the testis and epididymis and often displaces them inferiorly. Septations have been described within the cyst. In some cases, the lining of the cyst is thick, and this has been termed pachy-vaginalitis.^{2,3,5} Encysted hydrocele manifests as a loculated collection above the testis with a closed internal inguinal ring. Funicular hydrocele appears as an anechoic collection separated from the testis inferiorly but communicates with peritoneal cavity at the internal inguinal ring.^{4,5}

Management is prescribed according to the patency of the proximal processus vaginalis. Differentiation between spermatic cord hydrocele and scrotal hydrocele is important, as the management of these entities is different. Management of communicating scrotal hydrocele is the same as that of an inguinal hernia. Conservative treatment may be reserved for infants with an encysted variety, as it usually resolves by 12 months of age. Surgery is indicated if noncommunicating scrotal hydrocele does not resolve by 12–18 months of age or if it becomes larger

in size. Funicular hydrocele is usually considered as a potential hernia, and prophylactic herniotomy is usually performed laparoscopic repair of pediatric hydroceles has been reported as a successful technique for the hydrocele with an open processus vaginalis although not as widely used as conventional open surgery.^{4,5}

Conclusion

Hydrocele of the spermatic cord usually presented as a firm, slightly mobile lump in the inguinal region which extends toward the scrotum. Conservative treatment may be reserved for infants with an encysted variety, as it usually resolves in 12 months. Surgery is indicated if noncommunicating scrotal hydrocele does not resolve by 12–18 months of age or if it becomes larger.

Ethical approval and consent to participant

Ethics permission was obtained from the Health Research Ethics Committee and the Director of Human Resources and Education at Hasan Sadikin Academic Medical Center – Indonesia. Written informed consent was obtained from the patient's parents for publication of this case report and accompanying images.

Concern to publication

Our patient gave written consent to participate in this case report with the understanding that intent was to publish these findings.

Availability of data and material

Not Applicable.

Funding

This research received no specific grant from any funding agency in

the public, commercial, or not-for-profit sectors.

Authors contribution

As the corresponding author, I can attest that this manuscript has been seen and approved by all authors. All authors contributed to this case and writing the subsequent manuscript. All authors read and approved the final draft of this work.

Acknowledgment

Not Applicable.

Provenance and peer review

Not commissioned, externally peer-reviewed.

Declaration of competing interest

The authors declare that they have no financial connections with any companies of relevance for this article.

References

1. Busigó JP, Eftekhari F. Encysted spermatic cord hydroceles: a report of three cases in adults and a review of the literature. *Acta Radiol.* 2007;48(10):1138–1142.
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(3):218.
3. Martin LC, Share JC, Peters C, Atala A. Hydrocele of the spermatic cord: embryology and ultrasonographic appearance. *Pediatr Radiol.* 1996;26(8):528–530.
4. 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(1):82–86.
5. Mahapatra B, Panchal A, Mahadik A, Chougale Q. *Encysted hydrocele of the cord presenting as a groin swelling in an adult: a case report.* 2015.