Clinical Diagnosis of an Encysted Hydrocoele of the Cord in Ghanaian Peripheral Facilities, How Far is it Correct? A Description of Three Cases in Primary Care

John Kanyiri Yambah[1]*, Kindness Laar[2], Fenella Kafui Avoke[1], Nana Afia Gyima[1] and Nana Borsa Ackah[1]

[1]University Health Services, University of Education, Winneba

[2]Department of Health Policy, Management and Economics, School of Public Health, Kwame Nkrumah University of Science and Technology.

Received: 6 May 2023

Accepted: 13 July 2023

*Corresponding author: yambahjohn@yahoo.com

DOI 10.5001/omj.2025.13

Abstract

An encysted hydrocoele is thought to be rare and mimics other common groin tumors. We report three cases in a primary care setting. The first, a 16-year male who reported a left groin swelling he noticed over the last 8 months. The second and third are a 7-year-old and a 4-year-old who each presented with left groin swellings noticed since birth. A discussion of the literature is done and stresses the need for primary care practitioners to consider a possible clinical diagnosis of encysted spermatic cord hydrocoeles in new onset groin swellings in teenagers and children, as they may not be so rare.

Keywords: Encysted Hydrocoele; Groin Swelling; Surgery.

Introduction

An encysted hydrocoele of the cord occurs when there is entrapment of fluid in the processus vaginalis.[1] This fluid does not communicate with the tunica vaginalis or the peritoneal cavity. This rare condition is more common in infants and children, although it has been described among adults.[2] These lesions may occur anywhere along the tract of testicular descent from its intra-abdominal embryologic origin. The exact cause or pathogenesis is unknown. It has been known to occur after groin trauma and has been described as part of other congenital abnormalities. A spermatic hydrocoele, its other name is a differential diagnosis of an incarcerated inguinal hernia, a dermoid cyst or teratoma, inguinal lymphadenopathy, a lymphatic cyst and tumors of the spermatic cord.

In this case report, we describe three patients; a 16-yr old, 7-yr old and a 4-yr old. Each of them presented with a left groin swelling which turned out to be diagnosed clinically as encysted hydrocoeles after surgical exploration.

Case Reports

Case one

A mass had appeared in the left groin of 16-yr old boy, 8 months prior to presentation. it appeared not to be precipitated by any factors such as trauma or local infections. It progressively increased to its current size within three weeks. During that period, it was intensely painful. The pain subsided and then it became occasionally painful with a pain score of between 4 and 6. The pain is described as constant, dull and self-abates most times. Other times he takes paracetamol for the pain. The mass was irreducible and he had no past history of any groin swellings. There was no associated vomiting, constipation of abdominal swelling. The patient described it “a third testicle”.

On examination, all other systems are unremarkable except for the groin. Examination of the groin revealed a painless tense to hard ovoid mass. It measured 8cm x 6cm x 6cm, and had a smooth surface with no changes in the overlying surface skin. The mass did not transilluminate. It was about 3cm below the external opening of the inguinal canal. The spermatic cord above it could be palpated and its thickness was comparable to the contralateral cord. Below the mass, the cord could be felt and was of no difference in thickness as above. The skin above the mass was freely mobile and the mass could not be felt separately from the cord. Each testicle measured about 4cm x 3cm x 3cm, non-tender, smooth surface and had no irregularities on their surfaces. This is shown in Figure.1.

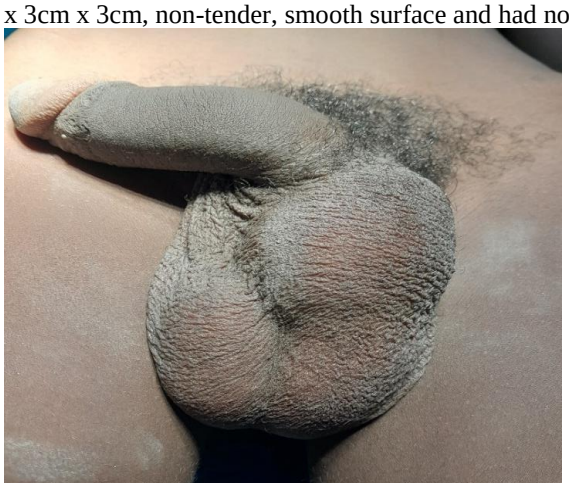

Figure 1: left testicular mass together with both tetes.

A clinical diagnosis of an encysted hydrocele of the cord was made with possible differential diagnosis of a teratoma or a lymph-node. Ultrasonography may have been helpful in excluding a teratoma and confirming a an encysted hydrocoele, but was absent in the practice and we did not contemplate it any further.

A decision to surgically explore the lesion was made and an informed consent obtained. Under local anaesthesia, a transverse scrotal incision was made and gently dissected to reveal an ovoid cystic mass attached to the one side of the cord as seen in Figure 2. This mass was then dissected off the cord as shown in Figure 2.

Figure 2: dissection showing encysted hydrocele together with the left testes alongside a 10cc syringe to allow an estimate of its size.

An incision through the cystic mass let out brownish fluid in a multiloculated structure with fibrous strands. This is depicted in figure 3 and figure 4 respectively.

Figure 3: Excised hydrocoele of the cord.

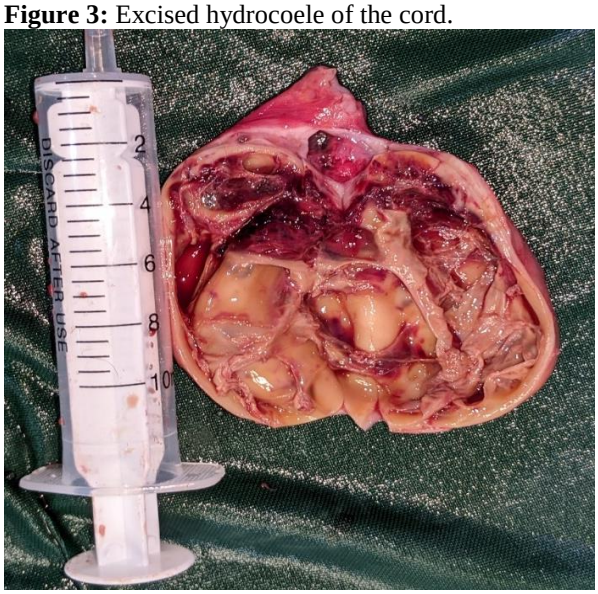

Figure 4: Cut surface of encysted hydrocoele showing its multilocular structure as well as fibrous strands.

Case two

A 7-yr old presented with a left groin mass noticed by the parents at birth. The parents described the swelling as distinct from the left testicle and that it did not reduce into the abdomen. This mass was described as painless and did not increase in size with crying or coughing. Initially, he was seen at a health facility when he was about 6 months old. At this facility, a yellowish fluid was aspirated and the swelling disappeared. It however, slowly recurred weeks later. Since then, the parents said it had not grown any bigger.

On examination a soft, fluctuant, non-tender, non-reducible mass was noted in the left groin about 1cm below the left external inguinal ring. One could get completely above it as well as below it. The mass transilluminated light and there were no inguinal lymph nodes palpated bilaterally. The skin above it appeared normal. A diagnosis of an encysted hydrocoele of the cord was made clinically.

Consent was obtained for surgery. After local anaesthesia, and a para scrotal incision to explore the mass, a cystic mass measuring 2cm x 4cm was seen, see Figure 5. This was gently dissected off the spermatic cord.

Figure 5: Left testicle and encysted hydrocele.

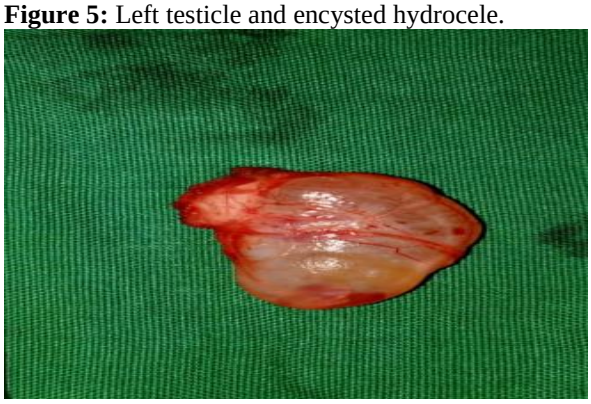

Figure 6: Excised hydrocele.

The intact excised hydrocoele is shown in Figure 6. It was composed of yellowish fluid and a thin sac. The post operative course was uneventful and he was discharged home the same day. The wound healed and there were no post-op complications.

Case three

A 4-yr presented with a groin swelling the parents noticed at birth. The swelling was painless and had not increased in size since birth. No changes in size were noted with crying. Pre-birth history was unremarkable.

On examination, a non-tender soft fluctuant mass about 7cm x 2cm was found in the left groin.. The mass was translucent to light and was also non-reducible. The left testes could be palpated independent of the mass. The testes were about 1cm x 1cm with no abnormalities A diagnosis of encysted hydrocoele of the cord was contemplated. All other physical examination findings were unremarkable.

Surgical exploration was considered and an informed consent was obtained. At surgery, a fluid filled cavity measuring about 8cm x 2cm x 2 was found in adjacent the cord as shown in Figure 7.

Figure 7: Encysted hydrocoele alongside left testicle.

Figure 8: Excised encysted hydrocele.

This was gently dissected of the spermatic cord as shown in figure 8.

Discussion

An encysted hydrocoele of the cord is defined where fluid trapped in the processus vaginalis does not communicate with the tunic vaginalis or the peritoneal cavity.[1] There are two types of spermatic hydrocoeles; the funicular type, where there is partial communication with the peritoneum but has no communication with the tunica vaginalis and the encysted type where no communication is established with either the tunica vaginalis or the peritoneum. An encysted hydrocoele should be differentiated from the more prevalent vaginal hydrocoele or abdomino-scrotal hydrocoele, where there is fluid around the testicle in the tunica vaginalis and communicating with the abdomen in the later scenario (abdomino-scrotal hydrocoele).[3] An encysted hydrocoele may be congenital; where it occurs alone or alongside other congenital abnormalities or acquired following trauma or infections.[2,4] In most cases a direct cause is not found. This rare condition when it occurs, is more common in infants and children as noted in this case report where 2 children were noticed to have it at birth. Even rarer is its occurrence in females where encystment occurs in the canal of nuck.[5] In the English literature, it has not previously been in teenagers besides in a nineteen-year-old Nigerian teen. Encysted hydrocoeles have however been reported among adults.[2,6]

An encysted hydrocoele presents as a diagnostic clinical challenge when only the patient history is considered. This is because, it may also be asymptomatic, and is serendipitously discovered during investigations for other conditions.[7] Where it is found in the inguinal canal and symptomatic, it can be confused with an incarcerated

inguinal hernia[6,8] which it shares common symptoms of acute groin swelling with pain of a sudden onset. In other instances when it is found lower down the tract of testicular descent, like in all three cases reported, a description of a mass similar to the testicle may prompt a high index of suspicion to possibility of an encysted hydrocoele. Though the 'third testicle' description helps to delineate it from a hernia, it may not differentiate it from polyorchidism, dermoid cysts or teratomas, and testicular cancer.[9] The encysted fluid has been reported to undergo torsion resulting in severe pain in some instances.[10]

Imaging modalities that will help make a diagnosis may include an ultrasound, a Computed Tomography or Magnetic Resonance Imaging.[7] An ultrasound of the mass will typically describe a cystic anechoic mass[6] which may firm up the diagnosis prior to surgery. Imaging was not considered because the unavailability of even basic sonography in our primary care setting. Surgical exploration like we did usually confirms the diagnosis and offers opportunity for management.[8–10] As much as possible a complete resection is usually recommended. Aspiration as a mode of treatment is not recommended as it almost always recurs as encountered in the earlier intervention carried out in Case Report 2. Other modes of treatment such as injection sclerotherapy have been tried but are all inferior to surgery. In longstanding cases or in instances of superimposed infections within the cyst or hemorrhage into the cyst, there healing process results in fibrosis of the wall of the cyst. This may explain why a multiloculated thick-walled cyst was found in Case report 1. In the few reported cases, thin-walled sacs similar to what were found in the other two cases we report on. Although a mesothelioma is a possible diagnosis, follow-up of our patients did not reveal a recurrence. We recommend a histopathology of the sample in settings where it is possible. We could not conduct a histopathology due to unavailability in our primary care setting, patient finances and their availability in tertiary centres, the closest which is about 300 km away.

Conclusion

Primary care physicians in peripheral facilities should consider clinical encysted hydrocoeles as a possible diagnosis of groin swellings in both children who present with groin masses as they may not be so rare. Management by surgical excision is both diagnostic and curative.

Disclosure

We declare no conflict of interest. We obtained permission and informed consent from the parents of all patients.

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