

# A Case of Encysted Hydrocele of Spermatic Cord Mimicking Incarcerated Inguinal Hernia in an Adult Male

KAILASH KRISHNAN<sup>1</sup>, KOPPERUNDEVI VADAMALAI<sup>2</sup>, NIRANJAN KUMAR<sup>3</sup>



## ABSTRACT

Encysted hydrocele of the spermatic cord occurs due to the persistence of the Cranford section, which is a segment of the patent processus vaginalis. This results in localised fluid collection, causing an encysted hydrocele. The present case reports a rare cause of groin swelling that mimics an incarcerated inguinal hernia. A 55-year-old male presented with complaints of swelling over his right groin for the past 6 months and dull-aching pain for the past 1 week. Clinically diagnosed as a case of a right incarcerated inguinal hernia. High-frequency ultrasound revealed an anechoic cystic lesion of size 8×3.8 cm in the subcutaneous plane of the right inguinal region with no bowel or omentum as content. Intraoperatively, a 9×7 cm ovoid encysted hydrocele of the cord was identified. No intraoperative findings were suggestive of an inguinal hernia. The hydrocele sac was carefully excised from cord contents. Prompt anticipation and surgical management are required for the diagnosis and management of an encysted hydrocele.

**Keywords:** Genital diseases, Management, Scrotal hydroceles, Spermatic cord disease

## CASE REPORT

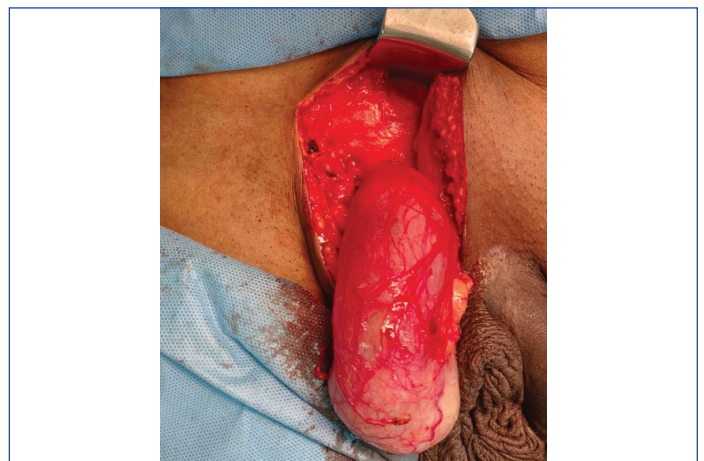
A 55-year-old male presented with complaints of swelling over the right groin for the past 6 months, insidious in onset, and gradual in progression, associated with intermittent dull-aching pain for the past one week. There was no history of abdominal distension, constipation, or obstipation. Additionally, there was no history of vomiting, loose stools, fever, or redness over the swelling. The patient also did not report a history of chronic cough or constipation but is a known case of chronic liver disease. History of endoscopic variceal ligation for Grade-III oesophageal varices. Vitals were stable, and there were no clinical signs of volume overload status. The abdomen was soft, non distended, and shifting dullness was absent. Examination of the cardiovascular, respiratory, and central nervous systems was unremarkable. Local examination revealed a swelling of size 10×8 cm extending from the right inguinal region up to the mid-scrotum [Table/Fig-1]. On palpation, there was no warmth, but diffuse tenderness was present over the swelling. The swelling was not reducible and tense in consistency. The transillumination test was positive, while the cough impulse test was negative. Examination of the external genitalia and digital rectal examination were normal. Clinically diagnosed as a case of an irreducible inguinal hernia, and planned for an emergency procedure.

High-frequency ultrasound of the right inguinal region revealed a well-defined, predominantly anechoic cystic lesion of size 8×3.8 cm in the subcutaneous plane of the right inguinal region, extending up to the root of the scrotum. No bowel or omentum was noted within the lesion. Blood investigations revealed thrombocytopenia (platelet count of 69,000 cells/mm<sup>3</sup>) and coagulopathy with an International Normalised Ratio (INR) of 1.717. There was a diagnostic dilemma regarding whether the patient presented with an irreducible inguinal hernia containing ascitic fluid. Hence, the patient was taken to the emergency operating theatre after transfusing four platelets and fresh frozen plasma.

**Intraoperative findings:** Upon opening the external oblique aponeurosis, a 9×7 cm ovoid encysted hydrocele of the cord extending from the level of the right deep inguinal ring up to 5 cm above the superior pole of the right testis was identified [Table/Fig-2]. The encysted hydrocele was carefully dissected-off, flimsy adhesions were released, and the cyst was separated from the cord contents [Table/Fig-3]. The preperitoneal fat pad was visualised at the deep ring, and no communication with the peritoneal cavity was observed. No features of a direct hernia were present. The specimen was excised and sent for histopathological examination [Table/Fig-4]. Postoperatively, sips of fluid were started on the same

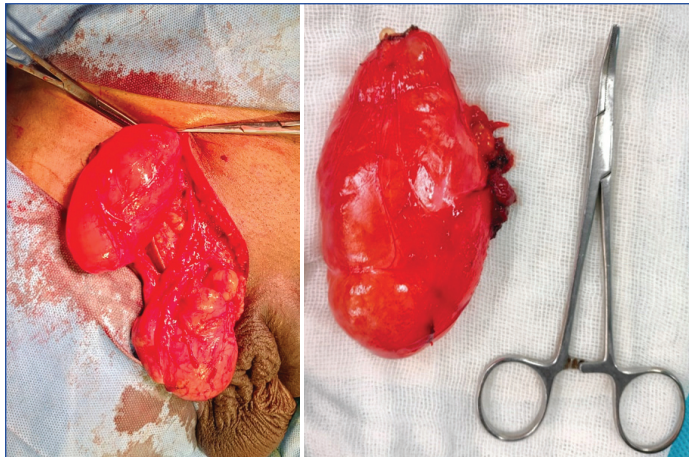


**[Table/Fig-1]:** Clinical picture of right inguinoscrotal swelling. The position of deep and superficial rings is marked.



**[Table/Fig-2]:** Intraoperative image of cystic swelling separately palpable from right testis.

day of surgery. There was minimal subcutaneous oedema over the surgical site, which resolved gradually with a compression dressing. A hepatology opinion was obtained for chronic liver disease and managed conservatively with fluid restriction, furosemide, and Aldactone. Histopathological examination revealed a benign cystic lesion. The section studied from the cyst wall showed fibro-collagenous, fibro-muscular, and fibro-fatty tissue with a lining of flattened to attenuated epithelium. The patient was discharged uneventfully on the 5<sup>th</sup> postoperative day. On postoperative follow-up at postoperative days 12 and 19, the patient had no complaints.



**[Table/Fig-3]:** Encysted hydrocele of cord carefully dissected from cord contents.  
**[Table/Fig-4]:** Final excised specimen. (Images from left to right)

## DISCUSSION

Hydroceles arise due to the accumulation of fluid between the layers of the patent tunica vaginalis. The process vaginalis is an embryonic bilayered peritoneal structure that accompanies the normal descent of the testis into the scrotum and undergoes complete obliteration. Hydroceles occur due to the failed obliteration of the processus vaginalis [1]. The communicating variant can be further classified into three groups: continuous, funicular, and encysted hydrocele of the cord. Encysted hydrocele occurs due to the failure of obliteration of the Cranford section, which is a segment of the processus vaginalis resulting in a localised cystic collection attached to the cord [2]. Furthermore, hydroceles can be subdivided into idiopathic, secondary, post-traumatic, post-infective, and iatrogenic forms. Its occurrence is mainly in children and adolescents and shares a common pathogenesis with hernia [1].

Isolated spermatic cord hydrocele is usually asymptomatic and seldom presents as a tender groin swelling. In a few cases, it mimics an irreducible inguinal hernia, lipoma of the cord, or lymphangiomatous swellings. Ultrasonography can be used to exclude other differential

diagnosis like inguinal hernia, undescended testis, and inguinal lymphadenopathy. Encysted hydrocele presents as a cystic anechoic swelling on ultrasound. The treatment of choice is complete excision. Hydrocele fluid is amber-coloured, and biochemical tests were positive for albumin, fibrinogen, and cholesterol crystals [3]. Adhikari S et al., reported the cases of five male patients aged nine months to 12 years. Firm masses were observed in the right inguinal region with positive transillumination, negative cough impulse tests, and irreducibility. They were diagnosed with encysted spermatic cord hydrocele and recommended to undertake cyst excision [4]. Histopathological examination of encysted hydrocele commonly reveals a mesothelium-lined cyst with a wall composed of dense collagenous tissue and smooth muscle bundles. Pachyvaginitis is a term used to describe the thickened tunica vaginalis and the beaded appearance of the spermatic cord [5,6]. Isolated encysted hydrocele can be predominantly managed conservatively in infants under its spontaneous resolution by one year of age. Surgery is only indicated for non resolution after 12-18 months of age or if it grows in size during infancy. Herniotomy is performed for the funicular variant of the encysted hydrocele as there is a possible risk of the development of an indirect hernia through the defect [5]. Surgical procedures for vaginal hydroceles like Jaboulay's procedure and Lord's plication are not feasible for spermatic cord hydroceles. Excision of the encysted hydrocele can also be attempted under local anaesthesia [6].

## CONCLUSION(S)

Encysted hydrocele is one of the rare differential diagnosis for groin swelling. Careful evaluation of inguinoscrotal swelling helps to delineate it from other common diagnosis and provides better treatment outcomes. The present case report highlights the diagnosis and management of encysted hydrocele, a rare cause of non tender inguinoscrotal swelling, which is commonly mistaken for an indirect inguinal hernia. Prompt anticipation and surgical management can yield optimal outcomes.

## REFERENCES

- [1] Dagur G, Gandhi J, Suh Y, Weissbart S, Sheynkin YR, Smith NL, et al. Classifying hydroceles of the pelvis and groin: An overview of etiology, secondary complications, evaluation, and management. *Current urology*. 2017;10(1):01-14.
- [2] Jaweesh S, Jaweesh M, Mahgaa MT, Ali S, Alfandi A, Mahmoud MZ. Diagnosis and management of a rare case of encysted hydrocele of spermatic cord: Case report and literature review. *Int J Surg Case Rep*. 2024;115:109299.
- [3] 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.
- [4] Adhikari S, Bhatta OP, Bhetwal P, Awasthi S. Encysted spermatic cord hydrocele: A case series. *Int J Surg Case Rep*. 2024;118:109619.
- [5] Sugianto KY, Pramod SV. Encysted spermatic cord hydroceles in 3-year old boy, case report. *Urol Case Rep*. 2021;38:101652.
- [6] Jain Y, Lanjewar R, Chauhan S. Encysted hydrocele of spermatic cord in adult: A rare case report. *Cureus*. 2023;15(10):e47782.

### PARTICULARS OF CONTRIBUTORS:

1. Postgraduate, Institute of General Surgery, Madras Medical College, Chennai, Tamil Nadu, India.
2. Professor and Chief, Institute of General Surgery, Madras Medical College, Chennai, Tamil Nadu, India.
3. Assistant Professor, Institute of General Surgery, Madras Medical College, Chennai, Tamil Nadu, India.

### NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Kailash Krishnan,  
 3G, 6<sup>th</sup> Block, Shanthi Towers, 88 Arcot Road, Vadapalani,  
 Chennai-600026, Tamil Nadu, India.  
 E-mail: kailashkrishnan27@gmail.com

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