



Spermatic Cord Cyst Presenting as an Inguinal Hernia Discovered Intraoperatively during Planned Open Herniorrhaphy: A Case Report

Logan D Glosser^{1*}, Wade Hopper², Hanna M Knauss¹, Motaz Al-Yafi³ and Arun Baskara³

¹University of Toledo College of Medicine and Life Sciences, USA

²Edward Via College of Osteopathic Medicine, USA

³Department of General Surgery, University of Toledo College of Medicine, USA

Abstract

Background: Benign swelling of the inguino-scrotal region is most commonly caused by inguinal hernias, although other etiologies exist. In most cases, diagnosis is made by history and physical exam alone. However, without imaging or further studies, other occult etiologies cannot be excluded. Rarely, spermatic cord cysts present with symptoms mimicking inguinal hernia.

Case Report: We report the case of a middle-aged male with a one-year history of a bulge in the left inguinal area that presented after heavy lifting. The patient complained of intermittent pain and enlargement since initial presentation. On physical exam, an irreducible mass in the left inguinal area was palpated. The patient was diagnosed with an inguinal hernia and underwent surgery for open repair with mesh. Perioperative discovery of a cyst attached to the spermatic cord was identified that trans-illuminated without evidence of a hernia. The cyst was excised. Final pathology showed a benign cyst with surrounding chronic inflammation, fibrosis, and soft tissue reactive changes. Spermatic cord cysts should be recognized in the differential diagnosis of inguinal bulge, with consideration of sonographic assistance to differentiate from hernia.

OPEN ACCESS

*Correspondence:

Logan D Glosser, University of Toledo College of Medicine and Life Sciences, 3565 Brookside Road, Toledo OH, 43606, USA, Tel: 419-705-6757; E-mail: Logan.Glosser@rockets.utoledo.edu

Received Date: 04 May 2022

Accepted Date: 01 Jun 2022

Published Date: 06 Jun 2022

Citation:

Glosser LD, Hopper W, Knauss HM, Al-Yafi M, Baskara A. Spermatic Cord Cyst Presenting as an Inguinal Hernia Discovered Intraoperatively during Planned Open Herniorrhaphy: A Case Report. *Clin Surg.* 2022; 7: 3517.

Copyright © 2022 Logan D Glosser.

This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Clinical Discussion: Few cases have reported spermatic cord cysts found during intraoperative repair of a clinically diagnosed inguinal hernia. This case highlights the need for surgeons to develop a broad differential diagnosis in cases of suspected inguinal hernia, with consideration of preoperative diagnostic imaging.

Conclusion: Currently, patients with a history and physical exam suspicious for inguinal hernia are not recommended to undergo preoperative imaging. Our case calls into question whether preoperative imaging with ultrasound or computed tomography should be included in routine preoperative evaluation. We present a case of a spermatic cord cyst that was misdiagnosed preoperatively as an indirect inguinal hernia resulting in prolonged surgery.

Keywords: Inguinal hernia repair; Spermatic cord cyst; Misdiagnosis; Herniorrhaphy

Introduction

Inguinal hernia is one of the most common indications for surgery worldwide [1]. Inguinal hernias present with a bulge in the groin region exacerbated by increased intra-abdominal pressure, such as with heavy lifting, sneezing, or coughing [2]. The differential diagnosis for inguinal hernia includes several considerably rarer conditions, such as benign cystic masses and neoplasms. Current international guidelines recommend against routine preoperative imaging because inguinal hernia is usually a clinical diagnosis [3]. No professional consensus exists to guide the decision to obtain preoperative imaging of suspected hernias [4]. We present a case of a spermatic cord cyst discovered during open herniorrhaphy in which no preoperative imaging was obtained.

Case Presentation

A middle-aged male presented with symptoms of intermittent shooting pain and swelling in the left groin suspicious for a non-reducible inguinal hernia. His symptoms began following an episode of heavy lifting. Due to classical presentation, pre-operative imaging was deemed to be unnecessary. The patient consented for an elective open repair with mesh. Dissection was carried down with

electrocautery through subcutaneous tissue and Scarpa fascia. The left inguinal ligament was identified from the pubic tubercle to the anterior superior iliac spine. The external oblique fascia was incised and split exposing the inguinal canal. The left spermatic cord and contents were bluntly dissected away from the external oblique aponeurosis. No hernia was identified, however a cystic mass fixed to the spermatic cord structures with a tail of preperitoneal fat connecting to the abdominal cavity was noted. The cyst was measured to be approximately 4 cm × 2 cm. An intraoperative urology consult was obtained for recommendations to proceed. The cystic structure was completely excised out to the proximal ring, with ligation of the preperitoneal fat string attachment. A pre-emptive silk suture was placed in the string attachment in case a future operation was required if pathology noted malignancy. The appendix testis was also removed and sent for permanent specimen. Intraoperative Doppler was performed to confirm there was no injury to the testicular artery. The testicle was replaced back into the scrotal sac, confirmed with visualization of the lateral sulcus by dissection of the tunica vaginalis. Doppler again confirmed good flow in the testicular artery. The spermatic cord contents were returned to the canal. The external oblique fascia was closed via primary repair in a continuous fashion using 3-0 vicryl suture without mesh placement. The pathology report noted a benign cyst, filled with serous fluid, with surrounding chronic inflammation, fibrosis and soft tissue reactive changes. The epididymal appendix was noted to have benign findings with calcification.

Discussion

Discovery of inguinal cord cysts during open surgical hernia repair is extremely rare, estimated to occur in less than 1% of cases. Spermatic cord cysts exist outside of the scrotal sac, typically of mesothelial origin [6]. Less commonly, cysts of dermoid and epidermoid histology have been reported [6,7]. Cysts can be congenital or acquired secondary to trauma, infection, or tumor [8]. Surgical excision is preferred treatment of choice for benign symptomatic cysts. Inguinal hernia is a protrusion of contents through the abdominal wall and into the inguinal canal. In the United States, abdominal wall hernias are found on 4.7 million ambulatory care visits each year. Inguinal hernias account for 75% of all abdominal hernias. Hernia repairs are among the most common procedure performed by general surgeons, with more than 600,000 inguinal hernias repairs annually [9,10]. Common practice utilizes the history and physical alone for diagnoses, with imaging reserved for cases of clinical uncertainty. One study reported 75% sensitivity and 96% specificity for diagnosis of inguinal hernia based on physical exam by surgeons [2]. However, other etiologies can imitate hernias on clinical presentation. One study showed that of 42,356 groin hernia repairs, 313 patients had no hernia identified during the planned surgical repair [11]. Although rare, etiologies other than inguinal hernia presenting as an inguinal bulge include lipoma, sarcoma, canal-hydrocele, epidermoid cyst, dermoid cyst, and bladder hernia, among others [6,7,12-14]. Ultrasonography is the preferred imaging modality for inguinal masses [4,5]. Physical examination plus ultrasound is recommended for uncertain cases because it is known that the two modalities when combined show higher diagnostic accuracy than either alone [3]. Computed tomography or magnetic resonance imaging can provide further detail if sonographic findings are inconclusive [1,3]. It may sometimes be difficult for providers to decide upon whether further imaging is or is not warranted during the workup of inguinal pain. No professional consensus exists regarding when to employ further

imaging. Reasons to obtain imaging may include suspected occult hernia, failed watchful waiting, or history of recent surgery near or involving the inguinal canal. Proper physical examination is critical to diagnosing inguinal hernias and hernia mimics. Examination should be performed while the patient is standing and relaxed. The presence of a mass, if not obvious, may be elucidated by increasing intra-abdominal pressure *via* the Valsalva maneuver. It is furthermore reasonable to attempt trans-illumination of inguinal masses as a routine part of one's examination of suspected hernias due to the possibility that a cyst may be present. We present a case of spermatic cord cyst presenting with history and physical exam findings typical of inguinal hernia. Perioperatively during planned open inguinal hernia repair, a 4 cm × 2 cm cyst attached to the spermatic cord was identified. This case demonstrates the limitation of history and physical alone for diagnosing inguinal hernias. Preoperative imaging can differentiate the diagnosis, prevent unnecessary risk, and guide appropriate management.

Conclusion

Patients with a history and physical exam suspicious for inguinal hernia are currently not recommended to undergo preoperative imaging. Our case calls into question whether preoperative imaging with ultrasound or computed tomography should be a part of routine evaluation prior to surgical repair. Described here is a case of a spermatic cord cyst that was mis-diagnosed preoperatively as an indirect inguinal hernia resulting in prolonged surgery.

References

1. LeBlanc KE, LeBlanc LL, LeBlanc KA. Inguinal hernias: Diagnosis and management. *Am Fam Physician*. 2013;87(12):844-8.
2. van den Berg JC, de Valois JC, Go PM, Rosenbusch G. Detection of groin hernia with physical examination, ultrasound, and MRI compared with laparoscopic findings. *Invest Radiol*. 1999;34(12):739-43.
3. Hernia Surge G. International guidelines for groin hernia management. *Hernia*. 2018;22(1):1-165.
4. Piga E, Zetner D, Andresen K, Rosenberg J. Imaging modalities for inguinal hernia diagnosis: A systematic review. *Hernia*. 2020;24(5):917-26.
5. Welch B, Barton TK. Inguinal cord cysts. *Hernia*. 2002;6(1):33-5.
6. Katergiannakis V, Lagoudianakis EE, Markogiannakis H, Manouras A. Huge epidermoid cyst of the spermatic cord in an adult patient. *Int J Urol*. 2006;13(1):95-7.
7. Aslam MZ, Kheradmund F, Patel NS, Turner G, Cranston D. Dermoid cyst of the spermatic cord: A rare cause of benign inguinal lump. *Can Urol Assoc J*. 2009;3(4):E29-E30.
8. 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):218-9.
9. Rutkow IM. Demographic and socioeconomic aspects of hernia repair in the United States in 2003. *Surg Clin North Am*. 2003;83(5):1045-51, v-vi.
10. BM E. Hernia. In: Sabiston DC TC, editor. *Sabiston Textbook of Surgery: The Biological Basis of Modern Surgical Practice*. 18 Ed. Philadelphia, Pa: Saunders/Elsevier; 2008;873-916.
11. Jensen P, Bay-Nielsen M, Kehlet H. Planned inguinal herniorrhaphy but no hernia sac? *Hernia*. 2004;8(3):193-5.
12. Sim WY, Park NH. Sonographic appearance of a large lipoma of the spermatic cord presenting clinically as an inguinoscrotal hernia. *J Clin Ultrasound*. 2021;49(4):395-7.
13. Willcox MJ, Dahl B. Exercise-induced inguinal hydrocele: An

unconventional presentation of a common problem. *Cureus*. 2021;13(2):e13596.

a huge spermatic cord leiomyosarcoma: Review of the literature. *World J Radiol*. 2011;3(4):114-9.

14. Kyratzi I, Lolis E, Antypa E, Lianou MA, Exarhos D. Imaging features of