Asian Journal of Case Reports in Surgery

11(4): 34-38, 2021; Article no.AJCRS.74231

Inguinal Hernia- A Common Disease that Followed an Uncommon Course!

Vishakha Kalikar[1*], Pratik Biswas[1] and Roy Patankar[1]

[1]Department of Digestive Diseases, Zen Hospital, Mumbai, India.

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

Editor(s):
(1) Dr. José Francisco de Sales Chagas, Sao Leopoldo Mandic Medical School, Brazil.
Reviewers:
(1) Belmaati Cherkaoui Ghita, Mohammed I University, Morocco.
(2) Devang Bharti, ABVIMS & Dr. RML Hospital, India.
(3) Kirti Savyasacchi Goyal, MM Deemed to be University, India.
Complete Peer review History: https://www.sdiarticle4.com/review-history/74231

Case Study

Received 17 July 2021
Accepted 27 September 2021
Published 01 October 2021

ABSTRACT

Inguinal hernias are the most common anomaly of the inguinal region and account for about 75% of all abdominal wall hernias [1-3]. We report a case of a middle-aged gentleman who presented with a swelling in the right lower abdomen and right flank extending up to the right subcoastal margin and congenital right sided cryptochidism.Pre-operative clinical and radiological assessment were suggestive of a right iliac fossa interparietal hernia with non-visualization of the right testicle. However, on table, the patient was found to have a right indirect inguinal omentocele with the right testicle within the hernia sac, and the hernia sac extending into the intermuscular plane, up to the right subcoastal margin.

Keywords: Hernia; inguinal; testis; undescended.

1. INTRODUCTION

Inguinal hernias have a wide spectrum of anatomical considerations, contents as well as a plethora of surgical treatment modalities [1-2]. In majority of the cases, inguinal hernias are diagnosed clinically with little to no confirmatory radiological investigations. On the other hand, ventral hernias like interparietal / spigelian hernias often additionally require radiological

**Corresponding author: E-mail: vish.kalikar@gmail.com;*

confirmation and detailing of diagnosis. We present a case of a middle-aged male who clinically and radiologically, had a right interparietal hernia with right undescended testes but was found to have a right indirect inguinal omentocele with the right testis within the hernia sac.

2. CASE REPORT

A 43 years old gentleman presented with complaints of a progressive right flank swelling since many years which would increase in size on coughing and straining, the swelling being partially reducible. He was unaware of his right undescended testis status. patient did not have any other significant past medical or surgical history. On physical exam, he had a 10x8 cms intra-abdominal, non-tender, firm, partially reducible lump which had a positive cough impulse and occupied the right iliac fossa, right lumbar fossa and extended up to the right hypochondrium. Secondary sexual characteristics were normal. The left testicle was found to be in normal position with an empty right hemiscrotum, and impalpable testis in inguinal canal or at the superficial or deep inguinal ring. A diagnosis of a right interparietal / spigelian hernia with right congenital undescended and atrophied testes was reached upon which was confirmed by an oral and intravenous contrast enhanced Computerized Tomography scan. Pre-operative work up was within normal limits. Patient was posted for Laparoscopic (sos open) repair of the hernia under general anaesthesia and was ASA 1. Pneumoperitoneum was created by inserting verees needle through palmer's point and a 5 mm port with 30-degree camera was introduced. A right sided indirect inguinal hernia was seen with majority of the greater omentum herniating through the defect. Once the omentum was reduced, the defect could be seen with the atrophied right testicle within the sac, just outside and lateral to the deep inguinal ring. Medially the inguinal canal was found to end blindly. The hernia sac was found to enter into the right intermuscular plane and travel cranially up to the right sub-coastal margin. The bulge caused due to the sac and transillumination from the laparoscopy light source could be appreciated. Transabdominal Pre-peritoneal (TAPP) mesh repair with a 12 x 15cm polypropelene mesh was done for the indirect inguinal hernia. Through a 5 CMS right iliac fossa muscle splitting incision, the entire hernia sac along with the right testicle was delivered and excised. The remnant proximal end of the sac was closed with 2-0 vicryl. A 14 no negative suction drain was kept in the right interparietal plane, which was removed on post-operative day 2. The post-operative course was uneventful and the patient was discharged on the post-operative day 2. Histopathology revealed an atrophic testis without any malignancy.

3. DISCUSSION

Undescended testis is the commonest genital anomaly in male children, affecting 2 to 5% of full-term boys and up to 1/3rd of premature boys [4,5]. Majority of the cases are diagnosed in the first weeks of life, either by the paediatrician during physical examination or by the family. Conservative management is advised for the first 6 months of life since spontaneous descent is likely to occur. The incidence of undescended testis is about 1% at 1 year of age [4,5]. In the event of non-descent, treatment should ideally be completed at 12 months of age or 18 months at the latest, either by hormonal and/or surgical modalities [4,5]. Testicular malignancy and reduced fertility were the main consequences of delaying treatment [4]. It is still unclear whether orchiopexy affects the natural history of testicular cancer development. Recent studies show that prepubertal surgery may in fact protect against the increased risk of testicular cancer associated with cryptorchidism [6-8].

During foetal development, testis descent from the abdominal cavity to the inguinal canal takes place between 8 and 15 gestational weeks. Insulin-like hormone 3 is the primary regulator of this phase, possibly augmented by Mullerian-inhibiting substance/ anti mullerian hormone, and regression of the cranial suspensory ligament by testosterone. The testis may further descend through the inguinal canal to the scrotum at 25–35 weeks, which is controlled by androgens acting both directly on the gubernaculum and indirectly via the genitofemoral nerve, and release of calcitonin gene-related peptide from its sensory fibres [4]. Deflection in the regulatory mechanism may result in a variety of structural defects such as indirect inguinal hernia, hydrocele, undescended testis, inter-parietal hernia or Spigelian hernia [5]. In our case, our patient had a well-developed inguinal canal with a rudimentary gubernaculum but as the processus vaginalis was never patent, the sac with the atrophied testes passed laterally and cranially into the intermuscular plane. To our knowledge, there are 11 case reports of an adult presenting with an inguinal hernia with co-

existing undescended testes [9], however in our case it was a sliding indirect inguinal hernia where the hernia sac wall contained the atrophied / undescended testis, which is being reported for the first time. Aberrations in the regulatory mechanism of hormones and peptides that have an effect on testicular descent may lead to a variety of structural anomalies such as incomplete or absence of the inguinal canal; absence or rudimentary developed gubernaculum; cryptorchidism; aberrant hernia localizations such as Spigelian hernias and sliding inguinal hernias that may contain tuba ovaries or testis. Congenital undescended testes, by adulthood, are often atrophied and mandate their removal especially in view of increased risk of testicular neoplasms / seminoma [4]. Co-existence of indirect inguinal hernia and undescended testes is a very rare finding [9] as the processus vaginalis in these cases have never been patent. In our case, as the inguinal hernia developed, it could not progress down the usual course in the inguinal canal as the processus vaginalis was not patent.

Fig. 1. CECT demonstrating a right lower abdominal wall hernia

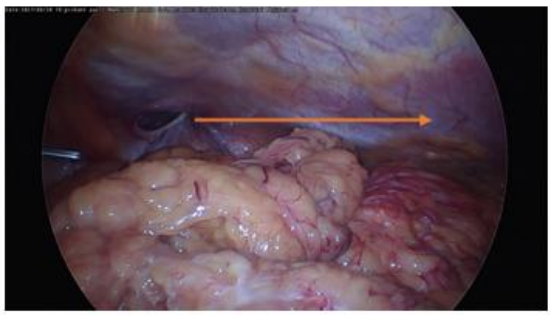

Fig. 2. Right indirect inguinal hernia defect with reduced omentum

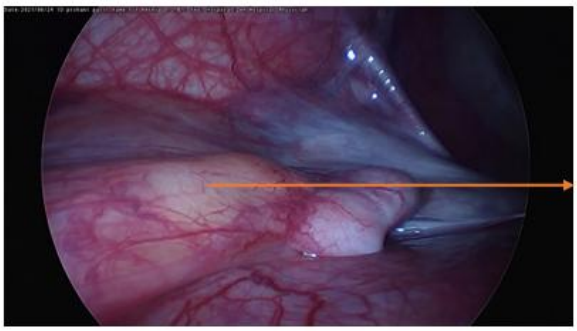

Fig. 3. The atrophied right testicle within the hernia sac, just lateral and outside the deep inguinal ring

Fig. 4. Buldge due to the hernia sac and transillumination from the laparscopic light source can be seen on the patient's right flank region

4. CONCLUSION

The hernia sac progressed laterally and cranially in to the intermuscular plane. We would also like to notify readers that in such situations, laparoscopic intervention proves to be especially more advantageous over open surgery, as the former allows minimally invasive examination of the anatomy and thus ease the decision making in the repair. Open surgery in this case could potentially jeopardize the diagnosis as well as the repair.

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

CONSENT

As per international standard or university standard, patients' written consent has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Jenkins JT, O'dwyer PJ. Inguinal hernias. Bmj. 2008;336(7638):269-72.
2. Salemis NS, Karagkiouzis G, Sambaziotis Tsiambas D, Large E. dermoid cyst of the spermatic cord presenting as an incarcerated hernia: a rare presentation and literature review. Hernia. 2010;14 (3):321-3.
3. Sepúlveda L, Gorgala T, Lage J, Monteiro A, Rodrigues F. Undescended testis presenting as incarcerated inguinal hernia in adults: a rare case and literature review. Current Urology. 2013; 7(4):214-6.
4. Mathers MJ, Sperling H, Rübben H, Roth S. The undescended testis: diagnosis, treatment and long-term consequences. Deutsches Ärzteblatt International. 2009;106(33):527.
5. Barthold JS. Abnormalities of the testis and scrotum and their surgical management. Campbell-Walsh Urology. 10th ed. Philadelphia: Saunders. 2012; 3560-74.
6. Chan E, Wayne C, Nasr A. Ideal timing of orchiopexy: a systematic review. Pediatric surgery international. 2014;30(1): 87-97.
7. Wood HM, Elder JS. Cryptorchidism and testicular cancer: separating fact from fiction. The Journal of urology. 2009; 181(2):452-61.
8. Walsh TJ, Dall'Era MA, Croughan MS, Carroll PR, Turek PJ. Prepubertal orchiopexy for cryptorchidism may be associated with lower risk of testicular cancer. The Journal of urology. 2007; 178(4):1440-6.

9. Wakabayashi M, Aoki K, Yoshida H, Kimura T, Domoto Y, Hosaka M, Funatsu K, Aisaki K, Hokari T. Laparoscopic treatment for adult inguinal hernia with cryptorchidism: A case report. International Journal of Surgery Case Reports. 2020; 75:46-9.

Peer-review history:
The peer review history for this paper can be accessed here:
https://www.sdiarticle4.com/review-history/74231