Large spigelian hernia: A case report

Linus Eze, Kenneth Agu, Stephen Edino

ABSTRACT

Introduction: Spigelian hernia is a rare variety of ventral abdominal hernia accounting for less than 2% of all abdominal hernias. Preoperative diagnosis is usually difficult and patients may present with intestinal obstruction. Treatment involves patient optimization and repair of the hernia. The latter is achieved either by open or laparoscopic technique with or without mesh. Outcome is usually excellent.

Case Report: We report an unusually large spigelian hernia (20x30 cm) with an obvious ventral swelling in a 79-year-old female with malnutrition and uncontrolled diabetes mellitus. There was no associated intestinal obstruction. At operation, contents of the sac included viable small bowel, omentum, part of transverse colon, lower stomach, cecum and vermiform appendix. She was stabilized, had an open repair without mesh and was followed-up for eight months without signs of recurrence or other complications.

Conclusion: Spigelian hernia is rare and preoperative diagnosis difficult in the majority of cases. Occasionally, like in this case, an obvious ventral swelling was present making diagnosis easier. Repair of the hernia was done by open technique without use of mesh due to the narrow defect on the abdominal wall.

International Journal of Case Reports and Images (IJCRI)

International Journal of Case Reports and Images (IJCRI) is an international, peer reviewed, monthly, open access, online journal, publishing high-quality, articles in all areas of basic medical sciences and clinical specialties.

Aim of IJCRI is to encourage the publication of new information by providing a platform for reporting of unique, unusual and rare cases which enhance understanding of disease process, its diagnosis, management and clinico-pathologic correlations.

IJCRI publishes Review Articles, Case Series, Case Reports, Case in Images, Clinical Images and Letters to Editor.

Website: www.ijcasereportsandimages.com

CASE REPORT

PEER REVIEWED | OPEN ACCESS

Large spigelian hernia: A case report

Linus Eze, Kenneth Agu, Stephen Edino

ABSTRACT

Introduction: Spigelian hernia is a rare variety of ventral abdominal hernia accounting for less than 2% of all abdominal hernias. Preoperative diagnosis is usually difficult and patients may present with intestinal obstruction. Treatment involves patient optimization and repair of the hernia. The latter is achieved either by open or laparoscopic technique with or without mesh. **Outcome is usually excellent. Case Report:** We report an unusually large spigelian hernia (20x30 cm) with an obvious ventral swelling in a 79-year-old female with malnutrition and uncontrolled diabetes mellitus. There was no associated intestinal obstruction. At operation, contents of the sac included viable small bowel, omentum, part of transverse colon, lower stomach, cecum and vermiform appendix. She was stabilized, had an open repair without mesh and was followed-up for eight months without signs of recurrence or other complications. **Conclusion:** Spigelian hernia is rare and preoperative diagnosis difficult in the majority of cases. Occasionally, like in this case, an obvious ventral swelling was present

making diagnosis easier. Repair of the hernia was done by open technique without use of mesh due to the narrow defect on the abdominal wall.

Keywords: Abdomen, Hernia, Large, Spigelian

How to cite this article

Eze L, Agu K, Edino S. Large spigelian hernia: A case report. Int J Case Rep Images 2015;6(5):321–324.

doi:10.5348/ijcri-201554-CR-10515

INTRODUCTION

Spigelian hernia is the protrusion of pre-peritoneal fat, a sac of peritoneum or an organ through a defect or weakness in the spigelian fascia [1]. This hernia derives its name from Josef Klinkosch who was the first to describe it and named it after the Belgian anatomist Adriaan Van der Spiegel who was the first to describe the semi-lunar line as reported by Mittal et al. [2].

Most spigelian hernias protrude from the linea semilunaris where it meets the arcuate line, the point from which the posterior rectus sheath is deficient downwards. This area is also known as spigelian hernia belt and is located in a transverse band lying 0 cm to 6 cm, below the umbilicus but cranial to a line running between both anterior superior iliac spines where the spigelian fascia is widest [3]. However, spigelian hernia has been reported to occur above the umbilicus [4].

The incidence of spigelian hernia is about 0.12% of all abdominal hernias occurring between 4th and 7th decades of life [5]. Most patients are over 50 years of age with a male: female ratio of 1.1:1.8 giving a slight female preponderance. Because the hernia, especially when small, is located between tissue planes, it has been described as interparietal, interstitial, or intermuscular hernia.

Linus Eze¹, Kenneth Agu², Stephen Edino³

Affiliations: ¹(FWACS), Consultant General Surgeon, Department of Surgery, Kogi State Specialist Hospital Lokoja, Kogi State, Nigeria; ²(FWACS), Senior Lecturer/Consultant, General Surgeon, Department of Surgery, University of Nigeria, Teaching Hospital Ituku/Ozalla Enugu State, Nigeria; ³(FWACS), Professor of Surgery/Consultant, General Surgeon, Department of Surgery, College of Health Sciences, University of Abuja, Nigeria.

Corresponding Author: Dr. Kenneth A. Agu, Department of Surgery, University of Nigeria, Teaching Hospital Ituku/Ozalla. P. M. B. 01129, Enugu 400001, Nigeria; Tel: +234(0) 803 3312 269; Email: drkena_agu@yahoo. co. uk

Received: 25 November 2014

Accepted: 30 January 2015

Published: 01 May 2015

The defect or weakness in the spigelian fascia can be congenital or acquired. The acquired variety may arise from factors that lead to increase in intra-abdominal pressure such as weight lifting, pregnancy and parturition, chronic cough, constipation and abdominal obesity. Also operations with insertion of drain or laparoscopic ports within spigelian fascia may predispose to herniation.

The hernias are usually small and lie between different muscle planes making them inconspicuous and difficult to diagnose preoperatively. The hernia sac may contain omentum, small intestine, part of the colon, inflamed appendix or incarcerated Meckel's diverticulum [6].

CASE REPORT

A 79-year-old female presented with a five year history of right ventral abdominal swelling with occasional abdominal discomfort. Initially, the swelling was small, mildly painful and disappeared on lying down. It gradually increased to approximately 20 cm by 30 cm at presentation. There was no associated change in bowel habit or other gastrointestinal symptoms. There was no history of cough, fever or past abdominal surgery. She had eight pregnancies but with only two surviving daughters both of whom were married. Due to poverty, she had no means of seeking and obtaining medical assistance and presented at a free rural medical program at her village from where she was referred for management under the sponsorship of a humanitarian organization. On physical examination, she was elderly, malnourished, pale, depressed and with poor general health. She had a blood pressure of 200/110 mmHg with a pulse rate of 80 beats/minute.

The chest was clinically clear. The abdomen revealed a large protruding irreducible swelling on the right side measuring approximately 20 cm by 30 cm in the widest dimensions (Figure 1). There were visible peristalsis and exaggerated bowel sounds. A wide defect was felt below the umbilicus and lateral to the right rectus abdominis muscle and measured 8 cm in diameter. A diagnosis of large irreducible spigelian hernia was made.

Laboratory investigation results showed a packed cell volume of 40%, normal electrolytes, urea and creatinine, glycosuria (3+), fasting blood glucose 380 mg/dl. Plain chest radiograph showed aortic unfolding but clear lung fields and abdominal ultrasonography noted bowel gas and peristalsis in the sac.

The patient was admitted and treatment for her diabetes mellitus and hypertension commenced. She was commenced on subcutaneous insulin which was converted to intravenous insulin added to 5% glucose infusion and potassium chloride intraoperatively. She was given oral nifedipine for the hypertension which was administered on the morning of operation and immediate postoperative period with little quantity of water.

The patient was counseled and consent obtained for operation. In the theatre, her diabetes control was

continued with glucose/insulin/potassium infusion. Under general anesthesia with cuffed tracheal intubation and good muscle relaxation a transverse incision was made over the mass.

The fibres of external oblique muscles were split to get to the hernia sac with a narrow neck (Figure 2). This was opened revealing viable small bowel, omentum, part of transverse colon, lower stomach, cecum and vermiform appendix held by minimal adhesions which were released by sharp/blunt dissection. The contents of the sac were returned to the peritoneal cavity and the former was trimmed down to the neck and closed using continuous Vicryl 2/0 suture. The aponeurotic tissue around the remarkably narrow spigelian fascial defect was approximated over the closed sac with non-absorbable (nylon 0) suture. Subsequently, the wound was closed in layers without drainage.

Postoperatively, patient had a rapid and uneventful recovery and was discharged on the 10th postoperative day. She has been followed-up for eight months and has remained well with no hernia recurrence.

Figure 1: Physical examination of the abdominal swelling.

Figure 2: Exposed sac of the hernia.

DISCUSSION

The case been reported was a female which is in keeping with an earlier report that gave a female to male ratio of 1.8:1.1. Also the patient was aged 74 years when she first noticed the hernia putting her in the upper limit of most reported cases that occurred between the 4th and 7th decade.

Most spigelian hernias are small and the symptoms are usually non-specific. The first presentation may be from intestinal obstruction owing to the narrow and rigid borders of the fascial defect. In this case, it was a relatively large protuberant hernia and the diagnosis was obvious with the defect palpated at the lateral border of the right rectus abdominis muscle. Most of the reported hernias occurred on the right side.

Diagnosis of spigelian hernia is difficult due to its rarity and paucity of specific symptoms. Only about 50% of cases are diagnosed preoperatively. Diagnosis can be facilitated by use of ultrasonography or CT scan [7]. However, CT scan provides greater sensitivity and specificity. This uncommon hernia with its diagnostic difficulty may mimic other lesions around the affected site in the abdominal wall including rectus sheath hematoma, seroma, peritoneal abscess, lipoma, or peritoneal tumor implants.

The most common content of the sac is omentum, but intestine, appendix, gallbladder, or ovary has been reported in literature [6, 8]. In our patient presumably due to the large size, it contained viable small bowel, omentum, part of transverse colon, distal stomach, cecum and vermiform appendix.

Urgent repair of spigelian hernia is recommended because of high risk of intestinal obstruction and strangulation. In most cases, it is possible to directly approximate the fascia to close the defect but cases with large defect will require use of prosthetic mesh. This repair can be accomplished by open technique which we utilized or laparoscopically [9]. In our case, though the hernia was unusually large, the neck of the sac and the fascial defect was quite narrow making it easy to coapt the firm edges of the aponeurosis adequately without tension using nylon o.

CONCLUSION

Spigelian hernias are rare, commonly small and carry a high risk of complication because of difficulty with preoperative diagnosis. However, when large like in the index case, diagnosis is relatively easy and repair by open technique can effect a cure.

Author Contributions

Linus Eze – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation

of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Kenneth Agu – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Stephen Edino – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

Copyright

© 2015 Linus Eze et al. This article is distributed under the terms of Creative Commons Attribution License which permits unrestricted use, distribution and reproduction in any medium provided the original author(s) and original publisher are properly credited. Please see the copyright policy on the journal website for more information.

REFERENCES

1. Spangen L. Spigelian hernia. Surg Clin North Am 1984 Apr;64(2):351–66.
2. Mittal T, Kumar V, Khullar R, Sharma A, Soni V, Baijal M PK. Diagnosis and management of Spigelian hernia: A review of literature and our experience. J Minim Access Surg 2008 Oct-Dec;4(4):95–98.
3. Holder LE, Schneider HJ. Spigelian hernia, anatomy and roentgenographic manifestations. Radiology. 1974 Aug;112(2):309–13.
4. Artiukh DY, Walker SJ. Spigelian hernia: Presentation, diagnosis and treatment. J R Coll Surg Edinb 1996 Aug;41(4):241–3.
5. Houlihan TJ. A review of Spigelian hernia. Am J Surg 1976 Jun;131(6):734–5.
6. Thomasset SC, Villatoro E, Wood S, Martin A, Finlay K, Patterson JE. An unusual spigelian hernia involving the appendix: A case report. Cases J 2010 Jan 13;3:22.
7. Jain KM, Hastings OM, Kunz VP, Lazaro EJ. Spigelian hernia. Am Surg 1977 Sep;43(9):596–600.
8. Campos SM, Walden T. Images in clinical medicine: Spigelian hernia. N Engl J Med 1997 Apr 17;336(16):1149.
9. Carter JE, Mizes C. Laparoscopic diagnosis and repair of Spigelian hernia: Report of case and technique. Am J Obstet Gynecol 1992 Jul;167(1):77–8.

Access full text article on
other devices

Access PDF of article on
other devices

Edorium Journals: An introduction

Edorium Journals Team

About Edorium Journals

Edorium Journals is a publisher of high-quality, open access, international scholarly journals covering subjects in basic sciences and clinical specialties and subspecialties.

Invitation for article submission

We sincerely invite you to submit your valuable research for publication to Edorium Journals.

But why should you publish with Edorium Journals?

In less than 10 words - we give you what no one does.

Vision of being the best

We have the vision of making our journals the best and the most authoritative journals in their respective specialties. We are working towards this goal every day of every week of every month of every year.

Exceptional services

We care for you, your work and your time. Our efficient, personalized and courteous services are a testimony to this.

Editorial Review

All manuscripts submitted to Edorium Journals undergo pre-processing review, first editorial review, peer review, second editorial review and finally third editorial review.

Peer Review

All manuscripts submitted to Edorium Journals undergo anonymous, double-blind, external peer review.

Early View version

Early View version of your manuscript will be published in the journal within 72 hours of final acceptance.

Manuscript status

From submission to publication of your article you will get regular updates (minimum six times) about status of your manuscripts directly in your email.

Our Commitment

Six weeks

You will get first decision on your manuscript within six weeks (42 days) of submission. If we fail to honor this by even one day, we will publish your manuscript free of charge.

Four weeks

After we receive page proofs, your manuscript will be published in the journal within four weeks (31 days). If we fail to honor this by even one day, we will publish your manuscript free of charge and refund you the full article publication charges you paid for your manuscript.

Mentored Review Articles (MRA)

Our academic program "Mentored Review Article" (MRA) gives you a unique opportunity to publish papers under mentorship of international faculty. These articles are published free of charges.

Favored Author program

One email is all it takes to become our favored author. You will not only get fee waivers but also get information and insights about scholarly publishing.

Institutional Membership program

Join our Institutional Memberships program and help scholars from your institute make their research accessible to all and save thousands of dollars in fees make their research accessible to all.

Our presence

We have some of the best designed publication formats. Our websites are very user friendly and enable you to do your work very easily with no hassle.

Something more...

We request you to have a look at our website to know more about us and our services.

We welcome you to interact with us, share with us, join us and of course publish with us.

Edorium Journals: On Web

Browse Journals

CONNECT WITH US