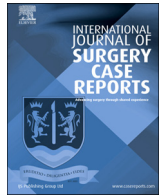




Contents lists available at ScienceDirect

International Journal of Surgery Case Reports

journal homepage: www.casereports.com

A French hernia in Dubai: A case report

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ARTICLE INFO

Article history:

Received 10 March 2018

Accepted 15 May 2018

Available online 31 May 2018

Keywords:

Femoral hernia

Appendix

CT scan

Mesh repair

Complications

Case report

ABSTRACT

INTRODUCTION: De Garengot hernia was first described in 1731. It is rare type of hernia and there is no established mode of treatment for it to date.

This work has been reported in line with the SCARE criteria (Agha et al., 2016).

PRESENTATION OF CASE: We present a case of a 72 years old male with a non-reducible right inguinal swelling diagnosed to be a femoral hernia with congested appendix within. There are less than 100 cases like this reported to date in the literature.

DISCUSSION: Acute appendicitis within the femoral hernia is not a common problem to cross paths with. Prompt early treatment is recommended and directed at repairing the hernia after appendectomy. The method of treatment is controversial and not well established due to the scarcity of cases but open repair without mesh is the preferred approach.

CONCLUSION: De Garengot hernia is a rare hernia to encounter. Imaging modalities are a major tool in early diagnosis and early prompt surgery is crucial in preventing major complications that may lead to unnecessary morbidity and mortality.

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1. Introduction

De Garengot's hernia is a rare type of hernia to be found. Along with Amyand's hernia it involves the presence of the appendix within the contents of the femoral hernia sack. De Garengot's hernia is incidentally found when repairing femoral hernias (0.9%) [6], and is more commonly found in females than males due to the increased incidence of femoral hernias in females [6].

In this paper we will be presenting a case of a 72 year old male who had a De Garengot hernia diagnosed and was operated on. This is the 1st such case reported in Dubai, U.A.E.

This work has been reported in line with the SCARE criteria [13].

2. Case presentation

72 year old gentleman with no medical illness presented with 5 days history of right inguinal swelling that was sudden 5 days ago no nausea or vomiting, no constipation, no abdominal pain and no fever. This is the first episode.

2.1. Past medical history

Laparotomy 1980 for perforated duodenal ulcer.

2.2. On examination

Vitals: BP: 148/75 mmHg. Pulse rate: 58/min. Resp rate: 17/min. Temp: 36.8 °C. SpO2:98% on room air. Weight: 57 kg. Height: 151 cm (59.45").

Abdominal examination: Upper midline scar. Umbilical hernia-reducible.

Right inguinal swelling around 6 × 3 cm, firm not attached to the skin, could not be reduced.

2.3. Laboratory tests

Creatinine 0.8 mg/dL. 0.8. eGFR 89.2. WBC COUNT 5.3. $10^3/\mu\text{L}$. RBC COUNT 4.58 $10^3/\mu\text{L}$. HAEMOGLOBIN 14.2 g/dL.

He was reviewed by our senior on call and decision was made to take him to do a CT with contrast because the right inguinal swelling was very hard and irreducible and there was a suspicion of it being a large lymph node.

The CT was done and showed a femoral hernia with appendix in the femoral canal anteromedial to the femoral vessels with early signs of strangulation and fluid in the hernia sac (Figs. 1 and 2).

So the decision to take the patient urgently to the OT was taken (Figs. 3 and 4).

2.4. Intra-op findings

Findings: right femoral hernia with incarcerated inflamed appendix.

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Fig. 1. CT scan with arrow pointing to appendix within hernial sack.



Fig. 2. CT scan with arrow pointing toward appendix within hernial sack.

Procedure: after cleaning and draping incision made over the swelling. The hernial sack was encountered and skeletonized. The sack was opened and the findings as mentioned. Appendectomy done through the femoral hernia. Femoral hernia repair done using 2/0 ethilon by approaching pectineal ligament and inguinal ligament. Subcutaneous tissues closed. Skin closed with metal stapler.

The patient had a good post-operative recovery time and was discharged home. He came back for metal clips removal 10 days later with a good and healthy healing wound.

Histopathology of the appendix showed it to be a congested uninflamed appendix.



Fig. 3. Picture showing appendix after opening hernial sack.

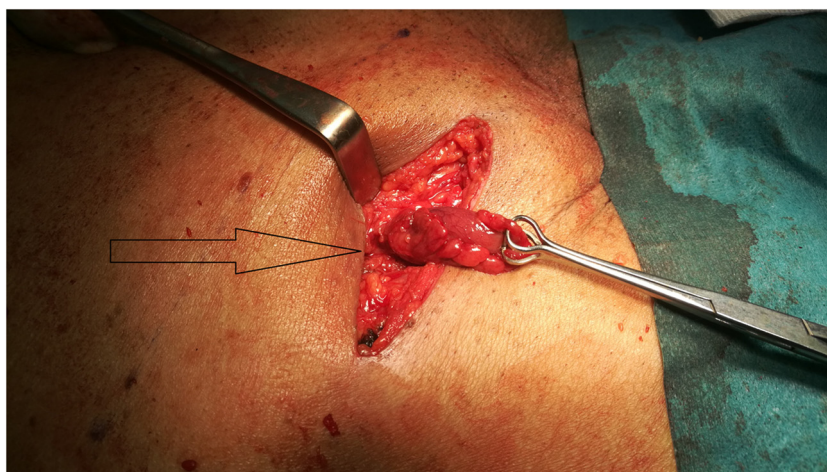


Fig. 4. Picture clearly showing appendix coming from hernial orifice.

3. Discussion

De Garengeot hernia was first described in 1731 by the Parisian surgeon Rene Jacques Croissant de Garengeot [1,3,4,6]. It is an unusual hernia and is commonly diagnosed incidentally intra-operatively [3]. Its prevalence is around 1% in all femoral hernias [4] and the incidence of acute appendicitis is even rarer 0.8%–0.13% [3,4]. It is more prevalent in females due to the fact of the femoral hernia being more common in females with a female to male ratio of (13:1) [3]. To date there have been approximately less than 100 cases reported in the literature [4,8].

The diagnosis is usually made intra-operatively after taking the patient for an emergency hernia repair for a strangulated hernia. The differential diagnosis of inguinal swellings includes in addition to inguinal hernia, adnexitis, a varix node, ectasia of the Vena saphena magna, lipomas or other soft tissue tumors, lymphomas and hypostatic abscesses in retroperitoneal processes [3].

In our case the diagnosis was made pre-operatively by CT scan because there was a suspicion of it being an enlarged lymph node. This shows the importance of CT in planning for the surgery since it might influence the approach and the technique, and establishing it as the most useful imaging modality pre-op [1,2,4].

It has been mentioned in the literature that pelvic appendices have a higher possibility of entering the femoral hernia sac and getting trapped due to the low position of the pelvic appendix [2,3,8].

There is no established treatment modality for this type of hernia due to the small number of cases reported and the treatment options range from hernia repair after appendectomy without mesh because of the possibility of getting an infection with the mesh, open versus laparoscopic repair which is not recommended and different approaches to the hernia repair itself e.g. cooper's ligament repair and pre-peritoneal repair [1,3,8].

The importance of early diagnosis and treatment of this type of hernia or any hernia containing inflamed appendix is to prevent complications including abscess formation, necrosis of the hernia contents, bowel obstruction, necrotizing fasciitis and even death in older patients with delayed diagnosis [3].

4. Conclusion

De Garengeot hernia is a very rare hernia to encounter. It is useful and recommended to keep an open mind when encountering an inguinal swelling and rule out this type of hernia using imaging modalities such as CT scan specially in centers that have readily available radiological services such as our center Rashid hospital and trauma center. It is important to diagnose it early to prevent serious complication resulting from late diagnosis. The treatment modality is still not agreed on yet due to the paucity of cases but an open approach without the use of mesh is the preferred method of treatment.

Conflicts of interest

No conflicts of interest.

Funding

No funding for research.

Ethical approval

This study has been exempted from Ethical approval by Dubai health Authority, health regulation and clinical governance department.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contribution

- 1) **Yousif H. Alabboudi**: Operated on the patient, Concept and design, Data collection, Data interpretation, Writing the paper.
- 2) **Hajer A. Busharar**: Supervision, Operated on the patient.
- 3) **Labib S. Alozaibi**: Consultant, Supervision.
- 4) **Asnin Shah**: Data collection.
- 5) **Rafya Ahmed**: Data collection.

Registration of research studies

This is not a research study. It is a case report.

Guarantor

Yousif H. Alabboudi.
Hajer A. Busharar.
Labib S. Alozaibi.

References

- [1] K. Ebisawa, S. Yamazaki, Y. Kimura, M. Kashio, K. Kurito, S. Yasumuro, et al., Acute appendicitis in an incarcerated femoral hernia: a case of De Garengeot hernia, *Case Rep. Gastroenterol.* 3 (November (3)) (2009) 313–317, <http://dx.doi.org/10.1159/000250821>, Available from:..
- [2] Y. Fukukura, S. Chang, Acute appendicitis within a femoral hernia: multidetector CT findings, *Abdom. Imaging* 30 (March (5)) (2005) 620–622, <http://dx.doi.org/10.1007/s00261-004-0283-3>, Available from:..
- [3] A. Kagan Coskun, Z. Kilbas, T. Yigit, A. Simsek, A. Harlak, De Garengeot's hernia: the importance of early diagnosis and its complications, *Hernia* 16 (March (6)) (2011) 731–733, <http://dx.doi.org/10.1007/s10029-011-0814-0>, Available from:..
- [4] A. Gurer, M. Ozdogan, N. Ozlem, A. Yildirim, H. Kulacoglu, R. Aydin, Uncommon content in groin hernia sac, *Hernia* 10 (September (2)) (2005) 152–155, <http://dx.doi.org/10.1007/s10029-005-0036-4>, Available from:..
- [6] V. Kalles, A. Mekras, D. Mekras, I. Papapanagiotou, W. Al-Harethee, G. Sotiropoulos, et al., De Garengeot's hernia: a comprehensive review, *Hernia* 17 (September) (2012) 177–182, <http://dx.doi.org/10.1007/s10029-012-0993-3>, Available from:..
- [8] P. Konofaos, E. Spartalis, A. Smirnis, K. Kontzoglou, G. Kouraklis, De Garengeot's hernia in a 60-year-old woman: a case report, *J. Med. Case Rep.* 5 (June (1)) (2011) 258, <http://dx.doi.org/10.1186/1752-1947-5-258>, Available from:..

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