**Case Report** **Open Access**

# A Case of Amyand's Hernia Variant

Aun Ali, Daleep Kumar, Madeeha Shahid, Ammara Salam, Summaya Saeed, Khursheed Samo

**ABSTRACT:**

The presence of vermiform appendix as the content of inguinal hernia is termed Amyand's hernia (AH). It is a very rare entity as most of the time contents of hernia are omentum and small bowel. Very often AH is asymptomatic and diagnosed intra-operatively. Amyand's hernia (AH) is classified into four sub-types depending on clinical features and the status of the appendix. But this time we encountered per-operatively entirety different findings of Amyand's hernia. Treatment of Obstructed inguinal hernia is only surgery, but dealing with Amyand's hernia (AH) is based on the patient condition and type of Amyand's hernia. So, treatment of this hernia remains controversial, different strategies should be applied to different case.

**Keywords:** Amyand's hernia, Appendix, Inguinal hernia, Omentum

**How to cite this Article:**

Ali A, Kumar D, Shahid M, Salam A, Saeed S, Samo K. A Case of Amyand's Hernia Variant. J Bahria Uni Med Dental Coll. 2023;13(1):70-2 DOI: https://doi.org/10.51985/JBUMDC2022103



## INTRODUCTION:

The appendix as an inguinal hernia content is termed Amyand's hernia, named after a French surgeon Claudius Amyand who first-ever removed the perforated appendix in 11 years old boy while performing incarcerated inguinal hernia repair on, 6 December 1735.[1] The incidence of it is 1% and is further dropped to 0.08% when it has a complication like acute appendicitis or appendicular abscess.[2]

## CASE REPORT:

A 25-year-old male, security guard by profession who had a history of right-sided reducible inguinal hernia for the last 2 years, came to the emergency department (ED) with complaints of painful irreducible right-sided groin swelling for a few hours. The pain is periumbilical and colicky associated with bilious vomiting. He had no known comorbidity. The patient had never taken any medical advice before and was not using any medications. He had no prior surgeries or hospitalizations. He smoked occasionally.

On examination, general physical examination was unremarkable. On focal examination, 4 x 4 cm irreducible tender swelling on the right inguinal region. No cough impulse was noted. He has been diagnosed with a right-sided incomplete obstructed inguinal hernia. After initial resuscitation in the emergency department (ED), all baseline laboratory investigations were sent and the patient was admitted for emergency inguinal hernia repair. A nasogastric tube was passed for small bowel decompression. Half an hour later hernia reduced spontaneously and the patient became symptom free so it was decided to go for elective hernia repair the next morning, rather than emergency repair. All laboratory parameters were within normal range. Unfortunately, no radiological investigation was advised.

Per-operatively we found an indirect hernia sac and a tubular structure lying close to the spermatic cord arising from the deep ring not as a content of the sac, as shown in Figure 1&2.

We carefully dissected and further identified it as an appendix having mesoappendix but couldn't reach up to its base. As it was not inflamed so pushed back inside and the deep ring was tightened with suture (Lytle's repair). Also, there was a risk of weakening of the posterior wall by dissection, increasing the chances of hernia recurrence. So sac was ligated and tension-free Lichtenstein mesh repair was done. Postoperative recovery was swift and event free. The patient was discharged on 2nd postoperative day.

**Aun Ali**
Associate Professor, Department of Surgery,
Fazaia Ruth Pfau Medical College, PAF Base Faisal, Karachi,
Email: aun.ali@frpmc.edu.pk

**Daleep Kumar**
Consultant General Surgeon,
CHK, Dow Medical College, DUHS
Email:drdileepkumar85@hotmail.com

**Madeeha Shahid**
Senior Registrar, Department of Surgery,
Fazaia Ruth Pfau Medical College, PAF Base Faisal, Karachi
Email: madeeha_87s@hotmail.com

**Ammara Salam**
Senior Registrar, Department of Surgery,
Fazaia Ruth Pfau Medical College, PAF Base Faisal, Karachi
Email: ammarasalam2012@gmail.com

**Summaya Saeed**
Associate Professor, Department of Surgery,
Dow International Medical College, DUHS
Email: summayasaeed@hotmail.com

**Khursheed Samo**
Associate Professor, Department of Surgery,
Dow Medical College, DUHS
Email: khursheed.ahmed@duhs.edu.pk

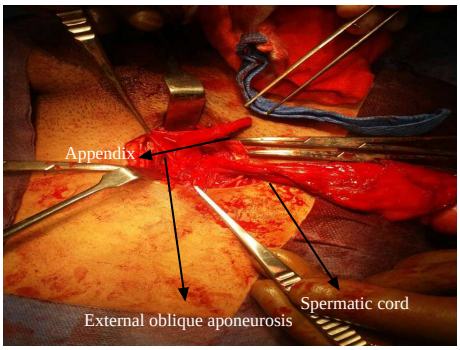
Received: 18-Jul-2022
Accepted: 24-Dec-2022

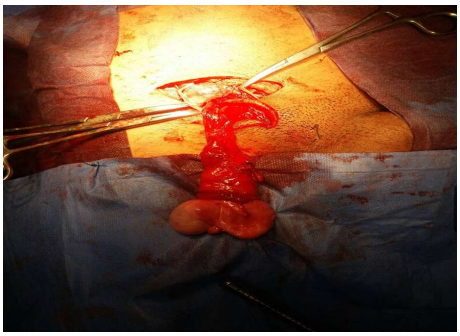
In this case, we did mesh repair as the appendix was not inflamed. Our case is somehow unique in that, the appendix was coming through a deep inguinal ring, not as a content of sac. We can label it as a variant of Amyand's hernia.

**DISCUSSION:**

The most common surgical problem, an inguinal hernia, is caused by a weakness in the abdominal wall. The Omentum and/or small intestine are frequently found in hernial sacs. But infrequently, other organs have reportedly been observed, including the ovary, fallopian tube, bladder, and large intestine.[3] Males are more likely than females to experience AH on any side. Due to the processus vaginalis' inability to completely disappear during growth, the rate of AH diagnoses in children is three times higher than it is in adults.[4] Though inguinal hernia is one of the commonest surgical procedures, surgeons often encounter different variations of normal anatomy. It has a very low incidence of complications like acute appendicitis <1%.

Fig 1 and 2: Intraoperatively, clearly seeing appendix and indirect hernia sac coming through the deep ring. The appendix was not inflamed



Losanoff and Basson 2008 classified AH into four types that are important in surgical management (table 1).[5,6] The status of the appendix determines hernia repair. Type I has a normal appendix. The management of this type is debatable. Some surgeons prefer mesh repair along with appendectomy while others perform mesh repair without appendectomy.[7,8] They are of opinion that why someone adds risks to mesh infection as appendectomy is a clean-contaminated procedure. Besides that reaching up to its base by enlarging the hernia defect or distending the neck of the hernia sac adds risk to hernia recurrence.[9,10]

Type II has acute appendicitis. The treatment, in this case, is appendectomy and hernia repair not by mesh but by some other technique Shouldice, Bassini etc.[11,8,12]

Type III has acute appendicitis along with abdominal sepsis, in this type, Appendectomy is recommended with primary hernia repair. Mesh placement is avoided because of the risk of mesh infection.

Type IV has acute appendicitis associated with related or unrelated abdominal pathology in this type appendicectomy through hernia or laparotomy plus diagnostic workup is routinely advised.

The "Rikki Modification" is a new category that has been added. It deals with situations when there is an incisional hernia; in these situations, the appendix is addressed as type I; acute appendicitis is managed by appendectomy through the hernia and subsequently followed by hernia repair with primary closure; and peritonitis with sepsis is managed as type IV.[13]

**CONCLUSION:**

Inguinal hernia repair that frequently presents difficulties to the surgeon. Imaging, laboratory testing, and physical examination are not very helpful for pre-operative diagnosis of Amyand's Hernia. To prevent the potential side effects of AH, such as the development and perforation of an appendicular abscess, early clinical suspicion is essential. The decision to undertake an appendectomy and tension-free Liechtenstein mesh repair at the same time is complicated.

Table: 1 Losanoff–Basson classification of Amyand's hernia (AH) and their management

| Types | Features | Suggested Management |
|---|---|---|
| 1 | Normal appendix. | Hernia repair by mesh placement |
| 2 | Acute appendicitis with no abdominal sepsis. | Laparoscopic appendicectomy with primary hernia repair. |
| 3 | Acute appendicitis with abdominal sepsis. | Open appendicectomy with primary hernia repair |
| 4 | Acute appendicitis with concomitant intra-abdominal pathology. | Open appendectomy with primary hernia repair, along with appropriate intra-abdominal pathology investigation and management. |

**Authors Contribution:**
**Aun Ali:** Design, writing the final draft, data collection and analysis
**Daleep Kumar:** Research conception
**Madeeha Shahid:** Data collection and analysis
**Ammara Salam:** Data collection and analysis
**Summaya Saeed:** Research conception, design,
**Khursheed Samo:** Research conception, data collection and analysis

## REFERENCES:

1. Psarras K, Lalountas M, Baltatzis M, Pavlidis E, Tsitlakidis A, Symeonidis N, et al. Amyand's hernia a vermiform appendix presenting in an inguinal hernia: a case series. Journal of medical case reports. 2011;5:463. DOI: 10.1186/1752-1947-5-463.
2. Ghafouri A, Anbara T, Foroutankia R. A rare case report of appendix and cecum in the sac of left inguinal hernia (left Amyand's hernia). Medical journal of the Islamic Republic of Iran. 2012;26(2):94-5.
3. Aldosari DM, Alaboon NK, Mojammami MY, Aqeeli MO, Aldhafeeri OA, Theban AA, et al. Inguinal Hernia Containing an Inflamed Appendix: A Case of Amyand Hernia. Cureus. 2022;14(1):e21121. DOI: 10.7759/cureus.21121. eCollection 2022 Jan.
4. Brainwood M, Beirne G, Fenech M. Persistence of the processus vaginalis and its related disorders. Australasian journal of ultrasound in medicine. 2020;23(1):22-9. DOI:10.1002/ajum.12195. eCollection 2020 Feb.
5. Losanoff JE, Basson MD. Amyand hernia: what lies beneath--a proposed classification scheme to determine management. The American surgeon. 2007;73(12):1288-90.
6. García-Cano E, Martínez-Gasperin J, Rosales-Pelaez C, Hernández-Zamora V, Montiel-Jarquín J, Franco-Cravioto F. [Amyand's hernia and complicated appendicitis; case presentation and surgical treatment choice]. Cirugia y cirujanos. 2016;84(1):54-7. DOI: 10.1016/j.circir.2015.06.012. Epub 2015 Jul 31.
7. Morales-Cárdenas A, Ploneda-Valencia CF, Sainz-Escárrega VH, Hernández-Campos AC, Navarro-Muñiz E, López-Lizarraga CR, et al. Amyand hernia: Case report and review of the literature. Annals of medicine and surgery (2012). 2015;4(2):113-5. DOI: 10.1016/j.amsu.2015.03.007. eCollection 2015 Jun.
8. Sagar A, Sureka J. Appendix in Inguinal Hernia-Amyand's Hernia. The Indian journal of surgery. 2015;77(Suppl 2):733-4. DOI: 10.1007/s12262-013-0890-8. Epub 2013 Mar 3.
9. Mishra VK, Joshi P, Shah JV, Agrawal C, Sharma D, Aggarwal K. Amyand's Hernia: A Case of an Unusual Inguinal Herniace. The Indian journal of surgery. 2013;75(Suppl 1):469-71. DOI: 10.1007/s12262-013-0834-3. Epub 2013 Jan 27.
10. Dange A, Gireboinwad S. Case Report: a Rare Case of Amyand's Hernia Presenting in a 3-year-old Male Child. The Indian journal of surgery. 2013;75(4):332-3. DOI: 10.1007/s12262-013-0870-z. Epub 2013 Mar 28.
11. Oremule B, Ashrafi MH. Amyand's hernia with a periappendicular abscess. BMJ case reports. 2014;2014. DOI: 10.1136/bcr-2013-203062
12. Goyal S, Shrivastva M, Verma RK, Goyal S. "Uncommon Contents of Inguinal Hernial Sac": A Surgical Dilemma. The Indian journal of surgery. 2015;77(Suppl 2):305-9. DOI: 10.1007/s12262-013-0806-7. Epub 2013 Jan 13.
13. Probert S, Ballanamada Appaiah NN, Alam AS, Menon NJ. Amyand's Hernia With Concurrent Appendicitis: A Case Report and Review of the Literature. Cureus. 2022;14(2):e22110.