

## Obstructed Inguinal Hernia with Scrotal Wall Cellulitis Presenting with Inflamed Appendix –Amyand’s Hernia with Appendicitis: Case Report

Shrirang Yadwadkar<sup>1\*</sup>, Niranjan Dash<sup>2</sup>, Jayant Gadekar<sup>3</sup>, Mrs.Thipse<sup>4</sup>, Sudhir Mutha<sup>5</sup>

<sup>1</sup>Resident, Department of Surgery, Padmashree Dr. Vithalrao Vikhe Patil Medical College & Hospital, Near Govt. Milk Dairy, Vilad Ghat, Ahmednagar, Maharashtra, India

<sup>2,4</sup>Professor, Department of Surgery, Padmashree Dr. Vithalrao Vikhe Patil Medical College & Hospital, Near Govt. Milk Dairy, Vilad Ghat, Ahmednagar, Maharashtra, India

<sup>3</sup>Professor and Head of Department, Department of Surgery, Padmashree Dr. Vithalrao Vikhe Patil Medical College & Hospital, Near Govt. Milk Dairy, Vilad Ghat, Ahmednagar, Maharashtra, India

<sup>5</sup>Associate professor, Department of surgery, Padmashree Dr. Vithalrao Vikhe Patil Medical College & Hospital, Near Govt. Milk Dairy, Vilad Ghat, Ahmednagar, Maharashtra, India

### \*Corresponding Author:

Name: Shrirang Yadwadkar

Email: [yadwadkarshrirang@gmail.com](mailto:yadwadkarshrirang@gmail.com)

**Abstract:** Presence of vermiform appendix (non-inflamed or inflamed) in inguinal hernia is called Amyand's hernia in honour to surgeon C. Amyand who published the first case of perforated appendicitis within inguinal hernia in a boy caused by ingested pin. As such amyand's hernia is a rare entity and amyand's hernia with inflamed appendix causing intestinal obstruction is very rare. Diagnosis can be difficult due to its rarity, and the presentation is similar to that of any inguinal hernia, with tenderness, erythema, and inability to reduce contents, if incarcerated. When appendicitis occurs, it can too mimic testicular inflammation or torsion, and so preoperative diagnosis is very rare. Hernia repair and appendectomy are the treatment of choice. Antibiotic therapy is associated, in order to prevent complications, such as intra-abdominal abscess. Here we report a case of obstructed inguinal hernia with scrotal wall cellulitis found to have inflamed appendix as content of hernia sac.

**Keywords:** Obstructed hernia, Amyands hernia, Appendicitis

### INTRODUCTION

In inguinal hernia very unusual sac contents may be displayed. Few reports are available for ovary, fallopian tube, urinary bladder, incarcerated bladder diverticula, large bowel diverticula with the form of diverticulitis or abscess, Meckel's diverticulum (Littre hernia) or foreign bodies (e.g., fishbones) [1-3].

Amyand's hernia refers to the presence of the appendix within an inguinal hernia in the name of Claudius Amyand, surgeon to King George II. Amyand was the first to describe the presence of a perforated appendix within the inguinal hernial sac in 1735 [4].

As such Amyands hernia is rare entity and appendicitis that too in obstructed hernia is very rare entity. Diagnosis can be difficult due to its rarity. The presentation is similar to that of any inguinal hernia, with tenderness, erythema, and inability to reduce contents, if incarcerated. It can mimic testicular inflammation or torsion when appendicitis occurs, and thus preoperative diagnosis is very rare. Choice of treatment includes hernia repair and appendectomy and

in order to order to prevent complications antibiotic therapy is associated [5]. Here we report a case of 55 yr old presented with obstructed inguinal hernia with right sided scrotal wall cellulitis which on exploration found out to be amyands hernia with appendicitis with adhesions.

### CASE REPORT

A 55-year-old male presented with a 2 days history of lower abdominal pain and right inguinoscrotal swelling. Abdominal pain was permanent and increasing. The swelling became irreducible 2 days back with pain and swelling over inguinoscrotal region. He had 1 episode of vomiting .He had constipation since 2 days. He had fever since 1 day. He denied any history of diarrhea, haematemesis, bleeding PR or use of non-steroidal anti-inflammatory agents (NSAIDs). His past medical history was insignificant. Social history was negative for alcohol, tobacco, or illicit drug use. His family history was unremarkable. On physical exam, His heart rate was 110/min and blood pressure 100/60. Per abdominal examination, abdomen guarding rigidity + ve and

tenderness over right iliac fossa, hypogastric region, Right inguinoscrotal swelling irreducible, cough impulse absent. Local examination- temperature over inguinal region and scrotum increased, edema +ve, induration + ve, clinically diagnosis of obstructed inguinal hernia with scrotal wall cellulitis was done. The rest of his examination was unremarkable. Laboratory evaluation revealed leucocytosis of 31000 with neutrophils 86% with decreased platelet count.

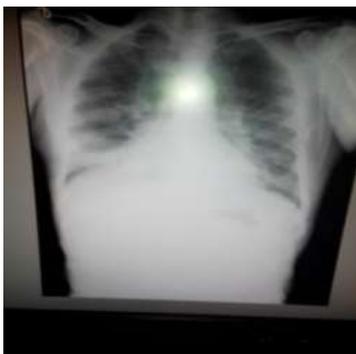


Fig. 1



Fig. 2



Fig. 3

Her X ray abdomen Erect suggested mildly dilated small bowel loops with no air under diaphragm (Fig. 1, 2) USG abdomen and pelvis suggested of scrotal wall edema with obstructed right inguinal hernia with dilated bowel loops with to and fro peristalsis s/o obstructed inguinal hernia with no evidence of any

gangrene. Appendix not visualized separately. On exploration, scrotal wall cellulitis with evidence of obstructed right sided inguinal hernia is found. Content of the hernial sac was found out to be inflamed appendix with interloop bowel adhesions with omental adhesions. No evidence of gangrene of bowel was found. Omental adhesions dissected and Appendicectomy done. Terminal ileum, caecum and ascending colon checked for congruency. Hernial Sac transfixated and ligated. Herniorrhaphy with Bassini's repair done. Corrugated rubber drain kept in scrotal cavity and wound closed primarily. Post operative course was uneventful. Drain removed on 2<sup>nd</sup> day and sutures removed on 10 th day and patient discharged. There is no evidence of recurrence after 3 months.

### DISCUSSION

Hernia can be defined as the protrusion of a viscus or part of a viscus through the walls of its containing cavity [6]. The presence of the appendix within an inguinal hernial sac is referred to as "amyand's hernia, an uncommon condition [7, 8].

Obstructed inguinal hernia presenting with appendix with features of appendicitis is very rare and demands reporting.

The finding of a non inflamed appendix within an inguinal hernia is reported to be found in 1% of all inguinal hernia repairs. Complicated cases associated with appendicitis are much less common. It is reported with an incidence between 0.08% and 1% that underscores the rarity of the condition [9, 10].

Most of the cases occur on the right side, probably as a consequence of the normal anatomical position of the appendix and also because right-sided inguinal hernias are more common than left-sided hernias [6]. Its occurrence on the left side has been rarely reported [11], this is rare and may be associated with situs inversus, intestinal malrotation or a mobile cecum [12].

Fernando and Leelaratna defined Amyand hernia as an inguinal hernia containing (a) a non inflamed appendix, (b) an inflamed appendix, or (c) a perforated appendix [11, 13, 14].

Losanoff and Basson [15] developed classification of Amyands hernia into 4 subtypes, adding the situation of complicating intra-abdominal pathology such as an appendiceal tumor or incidental abdominal mass (Table 1).

**Table 1: Classification of Amyand Hernias, after Losanoff and Basson**

Classification	Description	Surgical management
Type 1	Normal appendix within an inguinal hernia	Hernia reduction, mesh repair, appendectomy in young patients
Type 2	Acute appendicitis within an inguinal hernia, no abdominal sepsis	Appendectomy through hernia, primary repair of hernia, no mesh
Type 3	Acute appendicitis within an inguinal hernia, abdominal wall, or peritoneal sepsis	Laparotomy, appendectomy, primary repair of hernia, no mesh
Type 4	Acute appendicitis within an inguinal hernia, related or unrelated abdominal pathology	Manage as types 1 to 3 hernia, investigate or treat second pathology as appropriate

Amyand hernia caused by extra luminal obstruction due to pressure on the hernia neck rather than intraluminal obstruction of the appendix [16, 17].

The majority of the cases report the features of an obstructed or strangulated inguinal hernia [18, 19]. Preoperative clinical diagnosis of Amyand's hernia is very difficult due to the absence of specific symptoms or signs, even though acute appendicitis or perforation of the appendix within the sac simulates perforation of the intestine within the hernia and in fact intraoperative diagnosis is made. While, preoperative computed tomography scanning of the abdomen could be helpful for diagnosis [20, 21]. There are different modalities for Amyand's hernia surgery. In inflamed appendix, appendectomy is recommended without using mesh. Some surgeons advocate the use of mesh in contaminated wound, while some strongly opposes by others due to probable post operative wound infection [22-25]. Modified dam method can be carried out in such cases by using a drain [26]. If associated intra abdominal abscesses are present, may be dealt with either percutaneously or by open drainage. It has been reported that a normal appendix within the hernia sac does not require appendectomy. Every effort should be made to preserve the organ found in the hernia sac for an uneventful postoperative course [27, 28]

## CONCLUSION

Finally, we conclude that the presence of the appendix in an inguinal hernial sac, referred to as "Amyand's hernia", is an uncommon entity, an Amyand's hernia presenting as obstructed inguinal hernia with appendicitis is very rare. Despite its rarity, the fact that the majority of such cases present as a complicated inguinal hernia, making preoperative diagnosis difficult, demands that surgeons consider this condition in their differential diagnosis and so they are able to offer appropriate treatment. In obstructed Amyand's hernia, appendectomy with anatomical repair is best treatment. Meshplasty is better to be avoided.

## REFERENCES

1. Amyand C; Of an inguinal rupture, with a pin in the appendix coeci, incrustrated with stone; and some observations on wounds in the guts. *Phil Trans Royal Soc.*, 1736, 39: 329.
2. Greenberg J, Arnell TD; Diverticular abscess presenting as an incarcerated inguinal hernia. *Am Surg.*, 2005; 71: 208-209.
3. Casadio G, Chendi D, Franchella A; Fishbone ingestion: two cases of late presentation as pediatric emergencies. *J Pediatr Surg.*, 2003; 38: 1399-1400.
4. Hutchinson R; Amyand's hernia. *J R Soc Med.*, 1993; 86: 104-105.
5. Piedade C, Alves JR; Amyand's hernia in a 6-week-old infant: A delayed diagnosis. *Case Reports in Pediatrics*, 2013 (2013), Article ID 758171, 3 pages. Available from <http://dx.doi.org/10.1155/2013/758171>
6. Johari HG, Paydar S, Davani SZN, Eskandari S, Johari MG; Left-sided Amyand hernia. *Ann Saudi Med.*, 2009; 29(4): 321-322.
7. Logan MT, Nottingham JM. Amyand hernia: a case report of an incarcerated and perforated appendix within an inguinal hernia and review of the literature. *Am Surg.*, 2001; 67: 628-629.
8. Thomas WE, Vowles KD, Williamson RC; Appendicitis in external herniae. *Ann R Coll Surg Engl.*, 1982; 64: 121-122.
9. D'Alia C, Lo Schiavo MG, Tonante A, Taranto F, Gagliano E, Bonanno L *et al.*; Amyand's hernia: case report and review of the literature. *Hernia*, 2003; 7: 89-91.
10. Carey LC; Appendicitis occurring in hernias: a report of 10 cases. *Surgery*, 1967, 61: 236.
11. Gupta S, Sharma R, Kaushik R; Left sided Amyand's hernia. *Singapore Med J.*, 2005; 46: 424-425.
12. Bakhshi GD, Bhandarwar AH, Govila AA; Acute appendicitis in left scrotum. *Indian J Gastroenterol.*, 2004; 23: 195

13. Constantine S; Review of literature- computed tomography appearances of amyand hernia. *J Comput Assist Tomogr.*, 2009; 33: 359–362.
14. Sharma SB, Gupta V; Acute appendicitis presenting as acute hemiscrotum in a boy. *Indian J Gastroenterol.*, 2004; 23: 150–151.
15. Losanoff JE, Basson MD; Amyand hernia: a classification to improve management. *Hernia*, 2008; 12(3): 325–326.
16. Singal R, Mittal A, Gupta A, Gupta S, Sahu P, Sekhon M; An incarcerated appendix: report of three cases and a review of the literature. *Hernia*. 2012;16(1): 91.
17. Solecki R, Matyja A, Milanowski W; Amyand's hernia: a report of two cases. *Hernia*, 2003; 7: 50–51.
18. Logan MT, Nottingham JM; Amyand's hernia: A case report of an incarcerated and perforated appendix within an inguinal hernia and review of the literature. *Am Surg.*, 2001; 67: 628–629.
19. Livaditi E, Mavridis G, Christopoulos-Geroulanos G; Amyand's hernia in premature neonates: Report of two cases. *Hernia*, 2007; 11: 547–549.
20. Luchs JS, Halpern D, Katz DS; Amyand hernia: prospective CT diagnosis. *J Comput Assist Tomogr.*, 2000; 24: 884-886.
21. Anagnostopoulou S, Dimitroulis D, Troupis TG, Allamani M, Paraschos A, Mazarakis A et al.; Amyand's hernia: A case report. *World J Gastroenterol.*, 2006; 12(29): 4761-4763.
22. Komorowski AL, Rodriguez JM; Amyand's hernia. Historical perspective and current considerations. *Acta Chir Belg.*, 2009;109: 563–564.
23. Yu J, Fulcher AS, Turner MA, Cockrell C, Halvorsen RA; Blunt bowel and mesenteric injury: MDCT diagnosis. *Abdom Imaging*, 2011; 36: 50–61.
24. Sagar VR, Singh K, Sarangi R; Endoscopic total extraperitoneal management of Amyand's hernia. *Hernia*, 2004; 8: 164–165.
25. Singal R, Gupta S; Amyand's Hernia – Pathophysiology, Role of investigations and treatment. *Maedica (Buchar)*, 2011; 6(4): 321–327.
26. Yıldız F, Terzi A, Çoban S, Uzunkoy A; Amyand's Hernia mimicking acute scrotum. *European Journal of General Medicine*, 2009; 6(2): 116-118.
27. Bleichrodt RP, Simmermacher RK, van der Lei B, Schakenraad JM; Expanded polytetrafluoroethylene patch versus polypropylene mesh for the repair of contaminated defects of the abdominal wall. *Surg Gynecol Obstet.*, 1993; 176: 18-24.
28. Franko J, Raftopoulos I, Sulkowski R; A rare variation of Amyand's hernia. *Am J Gastroenterol.*, 2002; 97: 2684-2685.