

Left sided Amyand's hernia in a case of giant inguino-scrotal strangulated hernia of an infant - A rare case presentation.

Poonam Gupta,¹ Anil Kumar,² Umesh Kumar Gupta,^{3*} Rafey A. Rahman,³ Nandkishore Gupta,⁴

1. Associate Professor Department of Surgery, Uttar Pradesh University of Medical sciences, Saifai, Etawah, U.P. India.
2. Assistant Professor, Department of Surgery, Uttar Pradesh University of Medical sciences, Saifai, Etawah, U.P. India. ⁱ
3. Assistant Professor, Department of Pediatric Surgery, Uttar Pradesh University of Medical sciences, Saifai, Etawah, U.P. India.
4. Lecturer Department of Anatomy, Uttar Pradesh University of Medical sciences, Saifai, Etawah, U.P. India.

*Corresponding author: Dr. Umesh Kumar Gupta, Department of Pediatric Surgery, Uttar Pradesh University of Medical sciences, Saifai, Etawah, U.P. India. 206130
E-mail: dukg9999@gmail.com

Abstract- *Inguinal hernia containing vermiform appendix as a content is known as Amyand's hernia. Herniotomy and excision of appendix from scrotal approach is ideal treatment of Amyand's hernia. We reported a case of left sided strangulated hernia in an infant, on exploration which was found containing gangrenous caecum, inflamed appendix and small portion of oedematous distal ileum.*

Keywords- *Amyand's, Giant, Infant, Inguino-scrotal swelling,*

Introduction—The incidence of appendix in inguinal hernia in children is about 0.07%-0.28% as compared to adult cases in which appendix found less than 1%. [1] Hernia is defined as the protrusion of an organ or tissue through the wall of the containing cavity. The content of hernia sac varies with case to case. The Presence of appendix as content of an inguinal hernia is known as Amyand's hernia. The name Amyand's was given in the honour of French surgeon Claudius Amyand's (1680-1740) of England who first successfully treated an Inguino-scrotal fistula by appendectomy in 11 year old male boy. [2] Right sided Amyand's hernia is outnumbered in comparison of left side. [3] Hernia of Amyand's associated with normal appendix is approximate 1% while Amyand's hernia associated with appendicitis is less than 0.1%. [2,5]

Case report- A 11 month old male infant admitted in emergency department with history of nonreducible large left sided inguino-scrotal swelling, progressive increasing abdominal distension and bilious vomiting from 5 day. on examination infant was mildly dehydrated with left side large inguinal hernia was present, skin over swelling was normal in appearance. on palpation inguino-scrotal swelling was irreducible, tense, tender, get above swelling was absent, transillumination was negative. X-ray abdomen and pelvis erect view shows gaseous distension of bowel loops along gases bowel loop in scrotum (Fig.1A). Clinical diagnosis was made as left sided strangulated hernia. After resuscitation and antibiotic dose coverage, urgent scrotal exploration was done. Intraoperative findings of left sided sliding hernia with gangrenous caecum, inflamed appendix and small portion of oedematous distal ileum were present (Fig.1B). Gangrenous caecum, appendix and small portion of oedematous distal ileum was excised through scrotal approach. Healthy caecum was unreachable through left scrotum incision, so right infra umbilical abdominal incision was made and ilio- ascending anastomosis done. Post-operative supportive management was done and immediate postoperative period was uneventful. Patient on 3rd post-operative day clear liquid were allowed and on 4th post-operative day onwards patient was gradually shifted to semi solid to normal diet. Stich line infection developed on 3rd post-operative day which was successfully managed conservatively by daily dressing and

antibiotics. Histopathological examination of excised specimen of specimen showed features of appendicitis (Fig.2).

Discussion- Amyand's hernia is less common on left side as compared to right side. On left side it may be associated with hypermobile caecum, situs inversus or malrotation of gut. Appendicitis in Amyand's hernia due to vascular compression and adhesion may lead to irreducible hernia at the level of external ring.[5] Amyand's hernia has been classified in to four type according to the severity. Type-1 is having normal appendix, type 2 is when acute appendicitis without peritonitis, type-3 is appendicitis with peritonitis and type-4 is appendicitis with appendiceal mucocele and or other abdominal comorbidities.[6] In normal condition ideal treatment of Amyand's hernia is appendectomy and emergency hernia repair.[7]

In our case hyper mobile caecum was present. Possible aetiopathogenesis of appendicitis and gangrenous caecum and small part of oedematous distal ileum in Amyand's hernia is the reduction of blood flow due to adhesion causing hernia non reducible and vascular compression by external ring. Our case is Losanoff-Basson type 3 having appendicitis with gangrenous caecum and oedematous dilated proximal bowel. Previous reports also emphasized the rarity of condition. [6,8] Appendix as content reported to all forms of hernias and it is more common in inguinal and umbilical hernia while rarer in spigelian and obturator hernia.[9]

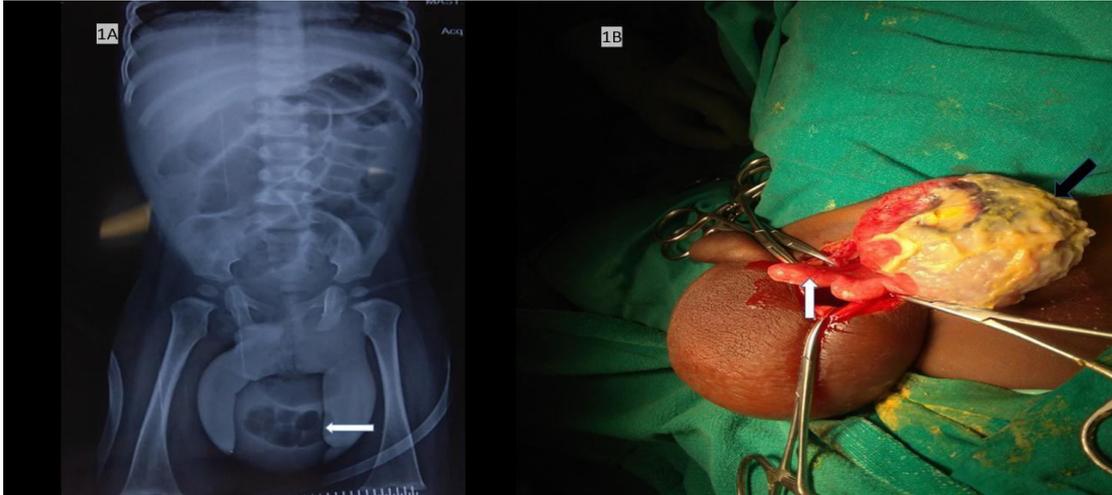
Conclusion-

Inguinal hernia is frequent cause of surgical procedure and Amyand's hernia is rare event which required different surgical procedures depending upon pathology i.e., inguinoscrotal incision, appendectomy, hernia repair and abdominal approach in case of strangulated and necrosed ileocecal area. We reported this rare case and technical issue related to it.

Reference

1. Sharma H, Gupta A, Shekhawat NS, Memon B, Memon MA. Amyand's hernia: a report of 18 consecutive patients over a 15-year period. *Hernia*. 2007 Feb;11(1):31-5. <https://doi.org/10.1007/s10029-006-0153-8>
2. Singh K, Singh RR, Kaur S. Amyand's hernia. *Journal of Indian Association of Pediatric Surgeons*. 2011 Oct;16(4):171. [doi: 10.4103/0971-9261.86890](https://doi.org/10.4103/0971-9261.86890)
3. Maeda K, Kunieda K, Kawai M et.al. Giant left- sided inguinoscrotal hernia containing the cecum and appendix (giant left-sided Amyand's hernia). *Clinical case reports*. 2014 Dec;2(6):254. [doi: 10.1002/ccr3.104](https://doi.org/10.1002/ccr3.104)
4. Morales-Cárdenas A, Ploneda-Valencia CF, Sainz-Escárrega VH, Hernández-Campos AC, Navarro-Muniz E, López-Lizarraga CR, Bautista-López CA. Amyand hernia: Case report and review of the literature. *Annals of medicine and surgery*. 2015 Jun 1;4(2):113-5. <https://doi.org/10.1016/j.amsu.2015.03.007>
5. Sengul I, Sengul D, Aribas D. An elective detection of an Amyand's hernia with an adhesive caecum to the sac: Report of a rare case. *North American journal of medical sciences*. 2011 Aug;3(8):391. [doi: 10.4297/najms.2011.3391](https://doi.org/10.4297/najms.2011.3391)
6. Losanoff JE, Basson MD. Amyand hernia: a classification to improve management. *Hernia*. 2008 Jun;12(3):325-6. <https://doi.org/10.1007/s10029-008-0331-y>
7. Cankorkmaz L, Ozer H, Guney C, Atalar MH, Arslan MS, Koyluoglu G. Amyand's hernia in the children: a single center experience. *Surgery*. 2010 Jan 1;147(1):140-3. <https://doi.org/10.1016/j.surg.2009.09.038>
8. Malayeri AA, Siegelman SS. Images in clinical medicine. Amyand's hernia. *N Engl J Med* 2011;364:2147. [doi: 10.1056/NEJMim1008452](https://doi.org/10.1056/NEJMim1008452).
9. Barut İ, Tarhan OR. A rare variation of Amyand's hernia: gangrenous appendicitis in an incarcerated inguinal hernia sac. *Eur J Gen Med*. 2008 Jan 1;5(2):112-4. <https://doi.org/10.29333/ejgm/82588>

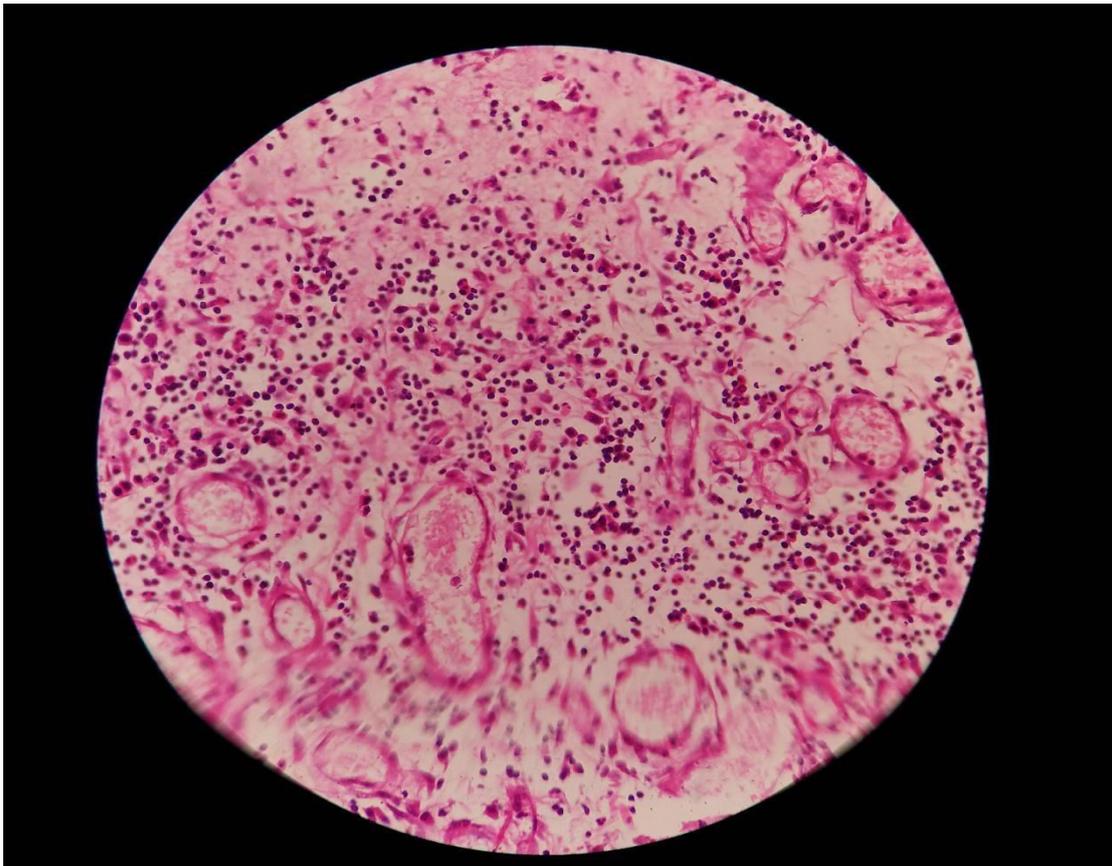
Figure1: Preoperative and intraoperative image of anomaly



1A. X-ray abdomen showed gaseous shadow in scrotum (white arrow).

1B. Left scrotal incision showed Inflamed appendix (white arrow), gangrenous caecum (black arrow).

Figure2: Histopathological image of appendix



Hematoxylin and eosin staining (400X) of anomaly shows predominant Lymphocytic Infiltration with few Neutrophils and eosinophils in subserosa and muscularis propria of Appendix.