

## AMYAND HERNIA: A RARE SURGICAL VARIATION

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### ABSTRACT

Amyand's hernia is an inguinal hernia with trapped appendix; its frequency is approximately 1%. Acute appendicitis is a rare clinical presentation (0.1%) of Amyand's hernia. It was first described by Claudius Amyand in 1735.

We report a patient of Amyand's hernia, three years of age, presented with right inguinoscrotal hernia. Right side groin discomfort was present. Herniotomy was performed revealing anon-inflamed appendix within the inguinal canal for which a classic appendectomy was done.

**Keywords:** Amyand hernia, Appendix, Inguinal hernia.

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### INTRODUCTION

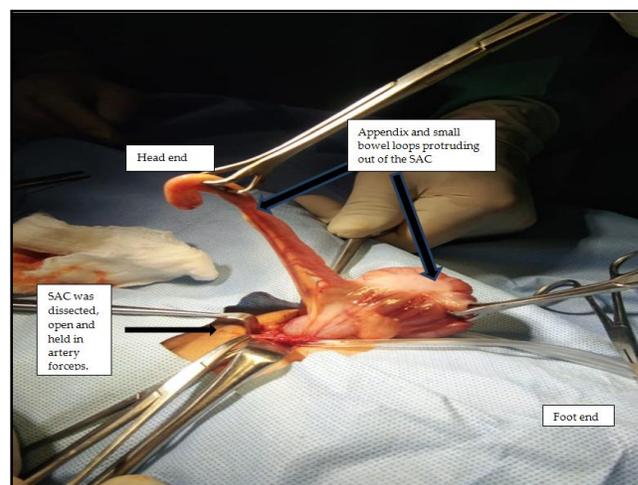
The abnormal protuberance of any structure from the inguinal canal is called inguinal hernia and its repair is among the common surgical procedures<sup>1</sup>. Amyand hernia, where appendix is present inside inguinal hernia sac, is a rare finding. Appendix can either be inflamed or non-inflamed<sup>1</sup>.

In 1735 Claudius Amyand operated 8 years old child with perforation of appendix within the inguinal hernia sac thus coining the term Amyand hernia<sup>1</sup>. Incidence of Amyand hernia is about 1%. The entrapped appendix can get infected leading to perforation<sup>3</sup>. There is no preference for inguinal hernia for gender or age. Amyand hernia may be present in the newborn or old age patient<sup>3</sup>. The occurrence of this condition may vary from 0.19 to 1.7%<sup>3</sup>. It is more common among younger age groups due to presence of patent processus vaginalis<sup>3</sup>.

Infection of the appendix in hernia is reported in 0.07–0.13% of cases. Perforation of the appendix in such cases is 0.1% with 15-30% mortality. High mortality is mainly due to abdominal sepsis<sup>3</sup>. As per literature this is the first case of Amyand Hernia reported in CMH Quetta, in fact first case in any Pakistan military setup.

### CASE REPORTS

Three years old male patient accompanied by mother reported to the surgery OPD of Combined Military Hospital Quetta. He had a bulge in the right groin and discomfort for the past three weeks. Past surgical and medical history were non-significant. Birth history of child was also non-significant, having a normal perinatal booked case and caesarean section delivery on term. Family history was also satisfactory with no congenital disorders. Examination revealed an



**Figure:** Amyand hernia.

irreducible right inguinoscrotal swelling without any signs of obstruction. Ultrasonography was indicative of a tube-shaped structure in the right groin region. He was diagnosed with right

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indirect inguinal hernia. He underwent herniotomy for the removal of hernia, after exposure of the inguinal canal, hernial pouch was recognized. After opening hernial sac, non-inflamed appendix was found to be present there (figure) for which a classic appendectomy was also carried out with herniotomy. Appendectomy consent was taken by parents intraoperatively after explaining the findings and literature protocols to them. Post op patient recovered uneventfully and discharged on 3<sup>rd</sup> postop day with weekly follow-

with a Nyhus II Amyand type 1 hernia for which appendicular resection and herniotomy were performed<sup>4,6</sup>. Literature emphasizes on reduction of hernia contents and tension-free hernia surgery for Amyand hernia<sup>5,6</sup>. In case of appendectomy along with hernia surgery, risk of surgical site infection increases, as clean and clean-contaminated operations are combined<sup>3</sup>. In cases of Amyand hernia on the left side and pediatric population, appendectomy does not sternal hernia surgery<sup>4,6</sup>.

**Table: Losanoff and Basson classification of amyand hernia. 5 (after approval accorded by author).**

Classification	Description	Management
Type 1	Normal appendix in an inguinal hernia	Hernia reduction, mesh placement
Type 2	Acute appendicitis in an inguinal hernia with no abdominal sepsis	Appendectomy, primary no prosthetics hernia repair
Type 3	Acute appendicitis in an inguinal hernia with abdominal and abdominal wall sepsis	Laparotomy, appendectomy, and primary no prosthetic hernia repair
Type 4	Acute appendicitis in an inguinal hernia with abdominal concomitant pathology	Similar to type 3 along with management of concomitant disease

up instructions to parents which was also uneventful.

## DISCUSSION

Amyand hernia is mostly reported in the male gender. It is almost always present on the right-side<sup>1</sup>. Very rarely, it can be found on left side e.g. situs oppositus, malrotated intestines, mobile caecum or enlarged appendix<sup>3</sup>. It can bring with it Caecum, ovaries, Meckel's diverticula or peritoneum<sup>8,9</sup>. Infection of appendix along with hernia may be caused by trauma or obstruction, leading to ischemia and infection<sup>2,3</sup>.

Search for cases of Amyand's hernia<sup>17</sup>, in Pakistan resulted in cases reported; three had normal appendices and four were inflamed while one was perforated<sup>10-17</sup>. Definitive diagnosis before the operation is very difficult<sup>4</sup>. Ultrasonography and CT scan are helpful in diagnosis<sup>1</sup>. Tube-like, close-ended structure, arising from the caecum and extending to hernia pouch can be observed in findings<sup>10</sup>. Although, sensitivity and specificity of both are debatable<sup>1,2</sup>.

Losanoff and Basson presented classification for this uncommon disease<sup>5</sup> (table). So as per classification the case under discussion presented

In cases of appendix inflammation, appendicular abscess formation or perforation, use of prosthetic material is avoided. Otherwise, it may lead to surgical site infection and fistula development from the appendix stump. In such cases, the Shouldice technique of hernia repair is preferred due to the low relapse rate<sup>7,8</sup>. Surgeon expertise of the technique is directly related to clinical outcomes. In order to avoid recurrence, the use of newer prosthetics like biological mesh is advocated.

## CONCLUSION

Amyand hernia is an uncommon disease and is a combination of hernia and appendicitis. Treatment modality is surgery, and outcomes depend on expertise of surgeon as well as presenting state. Imaging techniques such as Ultrasonography or Computerized Tomographic scan guide in planning surgery by identifying involved Intra-abdominal organs. Definitive management of Amyand hernia should not be delayed as it may lead to catastrophic outcomes.

## CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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