

## A RARE CASE ON AMYAND HERNIA – A CASE STUDY

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### Abstract

Amyand hernias are a rather uncommon occurrence. Their management isn't well established, which complicates repair management due to contamination concerns related with appendectomy. Preoperative CT imaging revealed an Amyand hernia in this patient, who underwent appendectomy and hernia repair with a lightweight mesh plug. Preoperative imaging revealed the presence of his appendix within his hernia in a 63-year-old man who arrived with a right groin bulge. He was taken to the OT and an appendectomy was done as there were chronic inflammatory changes. To prevent recurrence, the hernia was repaired with a lightweight mesh plug. He recovered nicely after surgery and had no issues. Even when an appendectomy is performed at the same time as the hernia repair, mesh repair is recommended.

**Keywords:** Appendectomy, Hernia

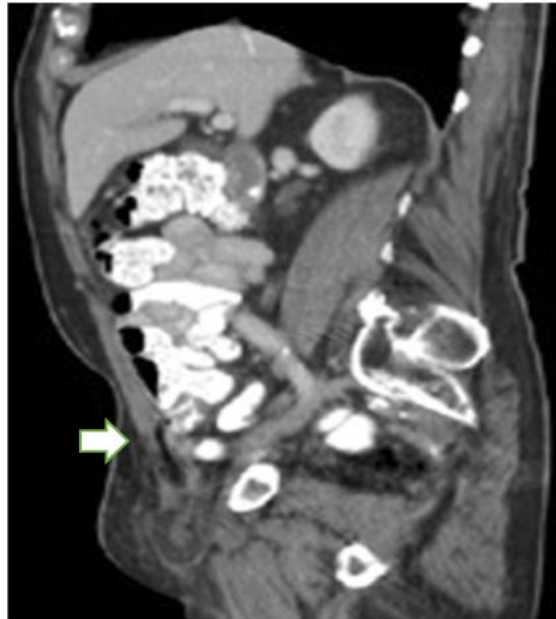
### BACKGROUND

In medical history, the presence of Amyand hernia goes back to the seventeenth century. On December 6, 1735, Claudius Amyand conducted the first appendectomy on an 11-year-old child, discovering a perforated appendix in an inguinal hernia sac <sup>(5)</sup>Because of his findings, vermiform hernia now refers to an inguinal hernia that contains the vermiform appendix.

He not only performed the first appendectomy, but he also reported the first unusual hernia content. Amyand hernias are rare, with just around 1% of inguinal hernias having Amyand hernias, according to the literature. An acutely inflamed appendix linked with an Amyand hernia is even unusual, with only 0.1 percent of cases being reported <sup>(2)</sup>.

Due to the unusual nature of the diagnosis, several questions about operative management, complications, and post-surgical care are raised in various case studies in the literature, and no clear guidelines exist. Lack of proper guidelines and rare nature of symptoms makes the diagnosis and management of this case challenging.

## Case Presentation



**Figure 1: Shows Ct Abdomen Sagittal View With Appendix And Omentum In The Sac**

A 63 year-old man came with complaints of a right groin swelling that was present for the past 4 weeks. When he first discovered the swelling, he had complaints of pain but was later asymptomatic and had no other complaints. He had previously had a right inguinal hernia repaired. He was worried that it had happened again. The patient didn't know much about his previous right inguinal hernia repair, other than the fact that no mesh was implanted. A 3 cm x 2.5 cm hard, non-tender lump was palpable in the right groin, just lateral to the pubic tubercle, on physical examination. To determine the aetiology of the bulge in his groin, a CT scan of the abdomen and pelvis was conducted (fig 1, fig 2, fig 3). The appendix was found within the sac, indicating a right inguinal hernia. The patient decided to go forward with hernia repair surgery. The patient came to the hospital for an elective repair of his right inguinal hernia. In the right groin, a conventional oblique incision was created.

The hernia was isolated and inspected after the external oblique aponeurosis was opened. The hernia was made up of a chronic, scarred amount of omentum that was exceptionally hard and dense. The base of the appendix could be seen escaping the internal inguinal ring, but the appendix could not be reduced back into the peritoneal cavity because to the heavily adherent omentum. There would be no reason to do an appendectomy if the appendix could be reduced back into the abdominal cavity at the time of the procedure. The presence of persistent adhesions in the area, however, prevented this step. To reduce the appendix at that position, a relaxing incision was created through the rectus sheath in the right lower quadrant, and the peritoneum was accessed.

The appendix could be seen exiting the abdominal cavity and entering the inguinal defect. Intraperitoneal counter tension was used to gently lower the appendix and omentum back into the abdominal cavity without causing any rupture. An inadvertent appendectomy was conducted due to the tightly adhered chronic inflammatory tissue, as there was significant tension on the cecum after inserting the appendix back in its

anatomical location. Because of the manipulation used during the treatment, there was concern about the development of appendicitis afterward. The base of the appendix was then stapled using a gastrointestinal anastomosis stapler. The indirect hernia defect was minor, and it was repaired using a medium-sized lightweight mesh plug. The patient was discharged from the post-anaesthesia care unit the same day as surgery, and his recovery was uneventful. During the surgical procedure, only a single prophylactic dose of antibiotics was given. He experienced no recurrence of his hernia at his two-week follow-up and was doing well. There was no sign of appendiceal inflammation or appendicitis on pathologic examination. However, there was some fat necrosis in the periappendiceal fat, indicating chronic periappendiceal adhesive alterations.

## DISCUSSION



**Figure 2: CT Abdomen With Arrow Mark Demarking The Defect**



**Figure 3: Shows CT Abdomen Coronal View With Appendix And Omentum In Sac**

Because of the uncommon nature of amyand hernias surgeons can find management to be difficult, as the majority of them are found during surgery. The conventional recommendation for a case presenting with appendicitis and amyand hernia has been to go ahead with appendectomy followed by herniorraphy with appropriate antibiotics irrigation and drainage to reduce risk of infection. When the appendix is acutely inflamed, there is a 50% chance of infection following its surgery, making mesh repair problematic <sup>(1)</sup>. While there are numerous studies suggesting the use of mesh in clean or contaminated hernia situations, there are few studies on the success rates of improved hernia repair or mesh use. Though newer studies indicate mesh repair in such cases, a majority of studies show herniorraphy management due to infection contraindicating mesh repair. When an intraoperative diagnosis is made and a patient's appendix appears normal, another option to be taken is whether to proceed with an accidental appendectomy.

The advantages of having an appendectomy include avoiding additional surgeries and their associated morbidities <sup>(2)</sup>. The risk of contamination in the case, on the other hand, is a concern. In contrast to the older case reports that support tissue healing, mesh repair can be used as an improved strategy of surgical treatment by using knowledge of lightweight meshes to clean-contaminated instances <sup>(4)</sup>. When a normal appendix is found with no inflammatory alterations (type 1), an appendectomy versus reduction is performed, and mesh is used to treat the hernia. While the patient's appendix did not appear to have appendicitis, it did have periappendiceal adhesions in the hernia sac, which not only hindered its reduction but also did not place this patient's presentation into the Losanoff and Basson classification system <sup>(3)</sup>. The diagnosis of an Amyand hernia is a unique difficulty for those who come across it, despite the fact that many general surgeons will never face it throughout their careers. This differential diagnosis, which affects people of all ages from children to the elderly, should be kept in mind when meeting symptoms that fit its description, despite its rarity. While the therapy and repair of Amyand hernias in the past did not support appendectomy in a normal-appearing appendix or the use of mesh in hernia repair, more recent literature clearly supports this form of surgical management. Hernia management with a mesh reduces the recurrence rate rather than doing herniorrhaphy <sup>(6)</sup>. Torino et. Al. finding also show that mesh repair after appendectomy can be successful <sup>(7)</sup>. (3)

<b>CLASSIFICATION</b>	<b>DESCRIPTION</b>	<b>SURGICAL MANAGEMENT</b>
TYPE 1	Normal appendix within an inguinal hernia	Hernia reduction, mesh repairs, appendectomy in young patients
TYPE 2	Acute appendicitis within 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 type 1 to 3 hernia investigate or treat second condition as appropriate

## CONCLUSION

Even though the conventional management contraindicates mesh repair due to suspected infection newer research studies allow mesh repair. It also has a higher chance of preventing recurrence of hernia. Hence unless there is acute inflammation of the appendix mesh repair is considered to be better. Some Amyand hernias can be treated by repairing the hernia with mesh while undergoing an appendectomy at the same time. Newer research backs up such decisions with beneficial patient outcomes.

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