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## Vasitis mimicking an Amyand's hernia: A case report



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## ABSTRACT

**INTRODUCTION:** Amyand's hernia is an inguinal hernia containing the caecal appendix. It is usually an intraoperative finding, although it can be diagnosed preoperatively with radiologic examinations, which would show a tubular structure inside the inguinal canal.

**PRESENTATION OF CASE:** A male patient presented to the emergency department complaining of abdominal pain in the right lower quadrant. He had been orchidectomized during his childhood due to cryptorchidism, and had been under antibiotic treatment a week before due to a suspected gonorrhoea. A small irreducible mass was found in the right groin. Blood tests showed leucocytosis and elevated CRP. A CT-scan was performed, reporting a tubular structure with a blind end entering the inguinal canal that seemed to be the appendix. Single-port laparoscopic exploration was indicated, and a right vasitis was found instead of an Amyand's hernia. After the operation, the patient explained that he had not taken the antibiotics for the gonorrhoea.

**DISCUSSION:** Untreated gonorrhoea causes ascendant vasitis and orchyepidimitis. In the present case, since the patient did not have testicles, the inflamed vas deferens mimicked the Appendix inside the inguinal canal. If the patient had told the truth about the untreated gonorrhoea, maybe the condition would have been suspected and no radiological examinations would have been performed, which subsequently lead to an unnecessary operation.

**CONCLUSION:** Presently, Amyand's hernia is more frequently diagnosed preoperatively than intraoperatively. However when an Amyand's hernia is preoperatively suspected, the possibility of a vasitis should always be ruled out in order to avoid unnecessary operations.

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## 1. Introduction

Whenever the caecal appendix is found inside an inguinal hernia, whether inflamed or not, this hernia is identified as an Amyand's hernia. It is a rare condition and is usually diagnosed intraoperatively [1]. However, with the increasing implementation of radiological examination in emergency departments, diagnosis is more likely to be made by this means, revealing a tubular structure inside a herniary sack. Differential diagnosis of radiologically detected tubular structures entering the inguinal canal must then be clearly established, since they do not always correspond to an Amyand's hernia [2]. We present the case of a patient who, following a CT scan, was suspected of having an Amyand's hernia, but was ultimately found not to have one.

## 2. Case report

A 42-year old male patient presented to the emergency department complaining of abdominal pain for the previous 3 days,

mainly in the right iliac fossa and the hypogastrium. He had not had a temperature or suffered vomiting, constipation or diarrhoea. The patient was under chronic hormone replacement treatment since undergoing a bilateral orchidectomy at the age of 13 due to cryptorchidism. Ten days before, he had been under antibiotic treatment for suspected gonorrhoea because of urethral discharge, which had subsequently disappeared. On physical examination, palpation of the right iliac fossa and the hypogastrium was painful but without guarding or other peritoneal signs. A small painful irreducible mass was also found in the right groin, which did not modify with Valsalva manoeuvres, and was thought to be an adenopathy. Blood tests showed leucocytosis and elevated C-reactive protein, and thus the patient underwent an abdominal ultrasonography. The radiologist reported an image suggestive of inguinal hernia containing a non-compressive, aperistaltic tubular structure coming from the abdominal cavity which was painful when pressed, and since it could not be fully characterized, a CT scan was performed. The scan report described an inflamed appendix with its tip inside a right inguinal hernia (Fig. 1). A single-port laparoscopic exploration was undertaken in order to confirm the diagnoses of Amyand's hernia and acute appendicitis, and to remove the appendix. Surprisingly, the appendix was found not to be inflamed and in its normal position within the right iliac fossa. In contrast, cross-

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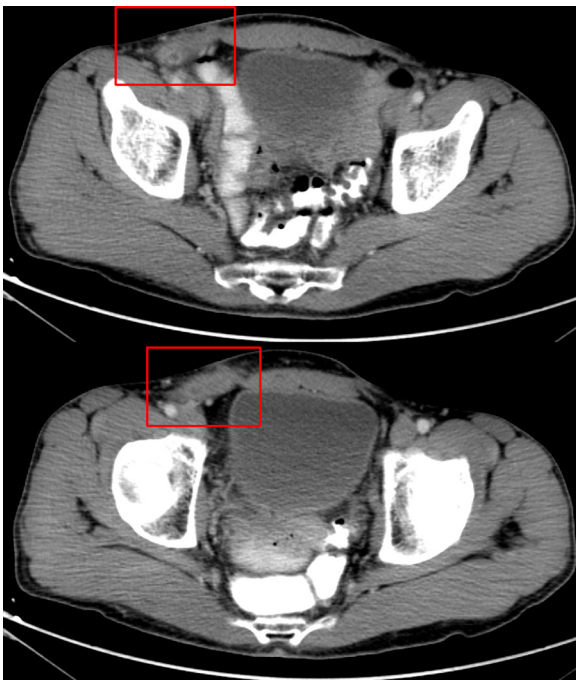


Fig. 1. CT scan images. A tubular structure in the right inguinal canal can be seen.

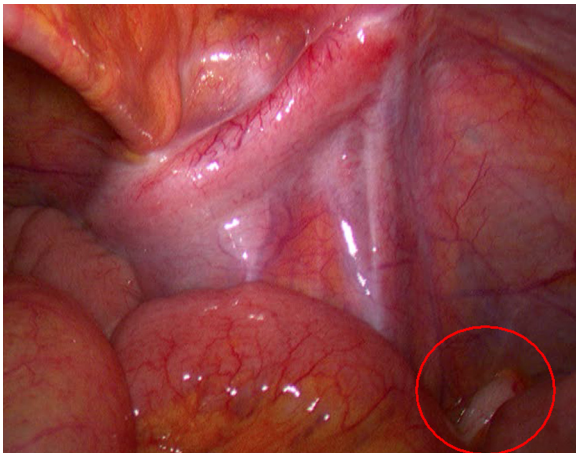


Fig. 2. Intraoperative image of the inflamed right vas deferens, which was mistaken for the appendix (circled in red) in the CT scan.

ing over the right iliac vessels, a tubular, swollen structure was found which entered the deep inguinal ring (Fig. 2), corresponding with an acutely inflamed vas deferens. On the left side, a normal vas deferens was found (Fig. 3). As the patient did not have testicles, the peritoneum of the right iliac fossa surrounding the tubular structure was opened, and the inflamed vas deferens was pulled from the inguinal canal inside the abdominal cavity and sectioned after dissecting it from the iliac vessels. A specimen was sent for anatomopathological study. Since there was no significant defect of the deep inguinal ring, surgery was concluded. No extra ports were needed to complete the procedure, and postoperative time was uneventful. When re-interrogated, the patient confessed that he had not completed the antibiotic treatment for the suspected gonorrhoea, and he was discharged the day after surgery under antibiotic treatment. Anatomopathological study reported an acutely inflamed vas deferens.

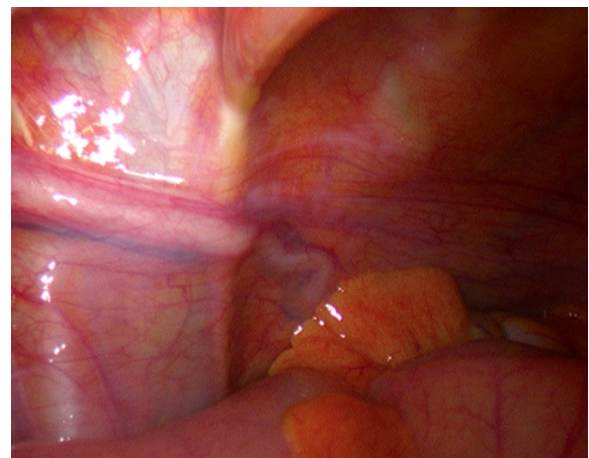


Fig. 3. Intraoperative image of the left vas deferens, which was normal.

### 3. Discussion

Amyand's hernia has previously and consistently been reported to be an intraoperative diagnosis, when a patient is operated on for a hernia and the appendix is found inside it. Nowadays, however, with the increasing use of radiologic examinations in emergency departments, it is more frequently diagnosed preoperatively [3].

The present case shows how a deficient anamnesis followed by the enthusiasm engendered by facing a radiologically diagnosed uncommon condition can lead to an unnecessary surgical intervention. Untreated gonorrhoea can be a cause of ascendant prostatitis, vasitis, orchiepididymitis and other non-urogenital conditions [4]. Had the patient reported that he had not taken the prescribed treatment for his gonorrhoea, this would have been taken into account, radiological exploration would probably not have been carried out and surgical intervention would have not been undertaken. The diagnosis would unquestionably have been more obvious if the patient had testicles, since the ascendant infection would have resulted in orchiepididymitis which is much more easily identifiable. Moreover, although CT scan is held to be useful in order to differentiate vasitis from hernia [5,6], in this case, since the patient had undergone an orchidectomy, the amputated vas deferens was confused with the appendix.

Amyand's hernia is so infrequent a condition that its preoperative diagnosis should always be questioned. Vasitis must be considered in the differential diagnosis when a tubular inflamed structure is radiologically identified inside the inguinal canal. Furthermore, when Amyand's hernia is the more likely diagnosis, laparoscopic approach offers the advantage of being useful in ruling out other diagnoses. If confirmed, the appendix can be reduced into the abdominal cavity to allow easy performance of an appendectomy [7] and the hernia can be laparoscopically repaired [8,9].

### Conflicts of interest

No benefits in any form have been received or will be received from a commercial party related directly or indirectly to the subject of this article. Authors declare no conflicts of interest.

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**Ethical approval**

Consent for publication was obtained from the patient and is available for review.

**Consent**

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

**Author contributions**

Dr. Cifuentes proposed the paper. Dr. Romero and Dr. Muñoz performed the intervention. Dr. Romero and Dr. Baena wrote the first draft. All authors contributed to the design of the paper and to further drafts. Dr. Romero is the guarantor.

**Registration of research studies**

This is not a first-in-man case report and thus cannot be registered.

**Guarantor**

Dr. Romero is the guarantor of the paper.

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