



# Uncommon case of pseudo inflamed incisional hernia



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## Uncommon case of pseudo inflamed incisional hernia

*An incisional hernia after an abdominal operation develops in approximately 10% of the cases. However, incarceration of an incisional hernia is relatively low. On the other hand presence of an inflamed appendix, in one hernia sac is a rare entity which may cause mis or delayed diagnosis. This case is an example of acute appendicitis which is atypically located in an incisional hernia sac and mimick incarceration.*

KEY WORDS: Appendicitis, Incisional hernia, Perforation

## Uncommon case of pseudo inflamed incisional hernia

Acute appendicitis is the most common emergency operation in general surgery practice but only 0.08-0.13 % of the cases, inflamed appendix located in a hernia sac. More over 95 % of these cases appendix localized in the right-sided inguinal or femoral hernia sac<sup>1,2</sup>. Presentation of acute appendicitis at atypical localizations can delay the diagnostic process and should be considered at differential diagnosis of pericaecal collections. Here we present a case of perforated appendicitis located in the right subcostal incisional hernia sac and mimics incarceration.

### Case Presentation

43-year-old female admitted to the emergency department with symptoms of abdominal pain and hyperemia at the right upper quadrant. The patient's past medical history includes left modified radical mastectomy for breast cancer and non-anatomic liver resection for metas-

tasis five and one year ago. Six months after the liver resection operation, patient noticed an incisional hernia but she was asymptomatic to date.

The medical oncology department hospitalized the patient due to abdominal pain, as the patient is still on follow up and received trastuzumab treatment 15 days ago. Seftriaxon treatment due to peritonitis started. On the third day of hospitalization, the patient consulted to general surgery department due to increased abdominal pain and erythematous changes on the hernia site.

The patient body temperature was 38.2°C, heart rate was 115/ per minute, blood pressure was 112/64 mmHg, and oxygen saturation was 90% on 4 liters of oxygen per/hour. On clinical examination, the patient had a right subcostal incisional hernia, with tenderness, hyperemia and fluctuation on the incision. According to the initial physical examination findings an incarcerated incisional hernia suspected. Computerized tomography (CT) of the abdomen revealed incisional hernia from right upper quadrant, fluid collection in the hernia sac and an inflamed appendix herniating into a right subcostal hernia sac (Fig. 1).

Laparotomy performed utilizing the same right subcostal incision. Hernia sac opened and culture was obtained for microbiologic examination. Terminal ileum and cecum were located in the hernia sac within intense inflammation. Dissection revealed perforated appendicitis due to luminal obstruction by an appendicolith. Appendectomy performed. There was no sign of bowel ischemia (Fig. 1).

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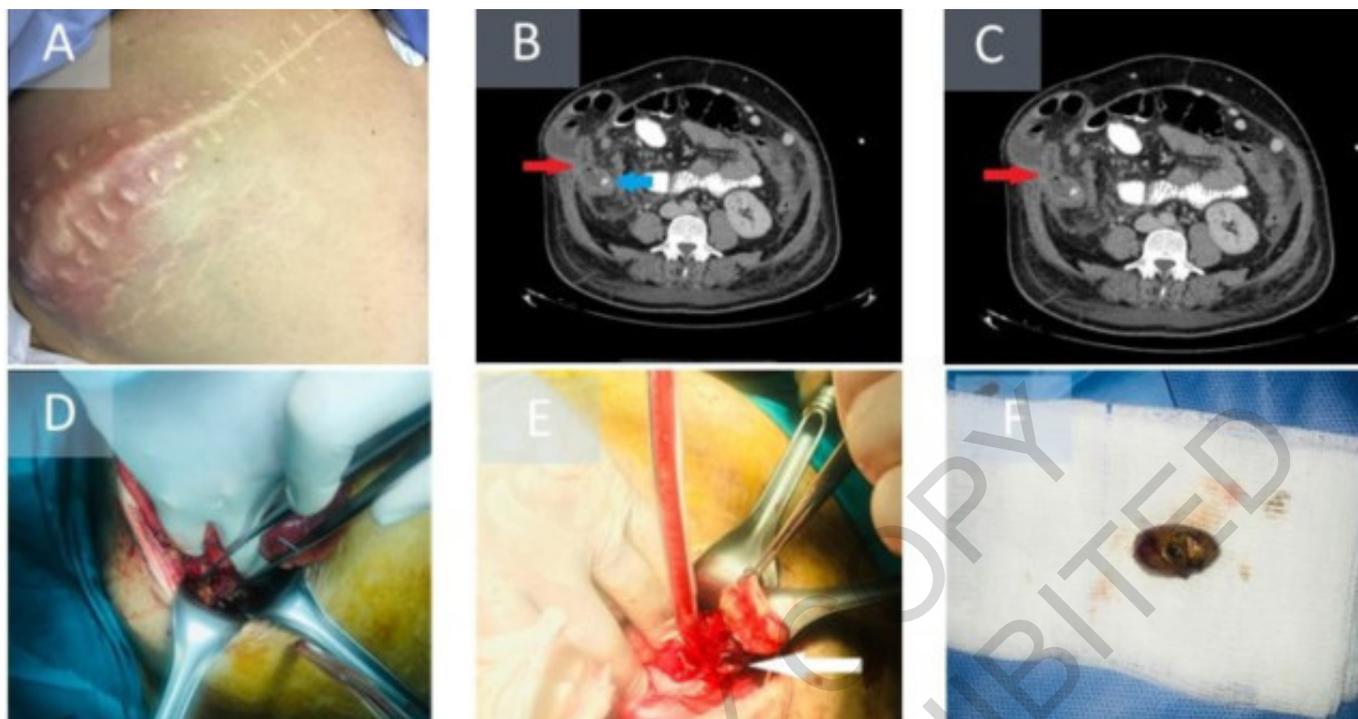


Fig. 1: A) Incisional hernia and erythematous changes of skin; B) red arrow indicates inflamed proximal appendix under the fascia, blue arrow indicates appendicolith; C) computurised tomography image showing fluid and distal appendix in the hernia sac; D) inflamed appendix after laparotomy; E) perforated appendix, white arrow indicates the site of perforation; F) Appendicolith.

The surgical site washed a 10-French closed suction drain placed. Due to heavy contamination, fascia closed primarily using running 1.0 polypropylene suture. The patient's postoperative course was uneventful and discharged without any complications 7 days after the operation.

## Discussion

To date, atypical localizations for appendicitis like in umbilical hernia, left-sided groin hernia or lower abdominal incisional hernia sac reported, but to our knowledge, this is the first case of perforated appendicitis mimicking an incarcerated incisional hernia which occurred after a right subcostal incision performed for partial hepatectomy<sup>1,3,4</sup>. Due to anatomical variations, location of appendix is variable and atypical presentations are possible. However appendicitis in a hernia sac is quite rare. Additionally, although the most prevalent consequences following a laparotomy is incisional hernia, non-midline incisions result in fewer incisional hernia, and right subcostal incision has better results in terms of incisional hernia development for liver resections<sup>5</sup>. In case of appendicitis in a hernia, it is postulated that inflammation may occur due to extrinsic compression and ischemia of the appendix by the hernia contents<sup>6</sup>. However, pres-

ence of an appendicolith in our case contradicts this postulation. Although pain, tenderness and hyperemia on the hernia site suggest an incarceration, these findings are also consistent with contained contamination in the hernia sac<sup>3</sup>. Even though laparotomy decision did not change, abdominal computerized tomography was very useful to differentiate coexisting pathology in this case.

## Conclusion

Appendicitis should be evaluated in the differential diagnosis of any abdominal abscess or collections found near the cecum even in unexpected localizations.

## Riassunto

Il laparocelo si sviluppa in circa il 10% dei casi dopo una laparotomia, tuttavia è relativamente raro che questo tipo di ernia di compliché con un vero incarceramento. Per altro verso la possibilità che essa venga ad avere all'interno della sacca erniaria un'appendice infiammata è altrettanto raro, e può portare a diagnosi errate o ritardate. Questo caso è un esempio di appendicite acuta che è localizzata in modo atipico nel sacco erniario di un laparocelo con simulazione di una incarcerazione.

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## Commento e Commentary

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*Dalla descrizione del caso clinico è difficile poter concordare con il sospetto preoperatorio di una incarceramento o uno strozzamento del laparocèle, perché la sintomatologia descritta era sostanzialmente dolore edema e iperemia cutanea della tumefazione del laparocèle, fluttuante, oltre all'elevazione della*

*temperatura corporea. Si trattò certamente di una complicanza rara e del tutto risolutiva per la diagnosi si dimostrò l'indagine TC, giustificando l'intervento chirurgico in una paziente di per sé delicata.*

\* \* \*

*From the description of the clinical case, it is difficult to agree with the preoperative suspicion of incarceration or constriction of incisional hernia, because the described symptoms were essentially pain, edema and skin hyperemia of the swelling and fluctuating of the tumor, in addition to signs of infection for the elevation of body temperature.*

*It was certainly a rare complication and it was completely decisive for the diagnosis the CT, confirming and justifying the surgery in a patient who was in herself delicate.*