



# Capsulated hematoma presenting clinically as an inguinal hernia: a case report

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**Abstract:** Inguinal hernia is a common condition, but the etiology is still not fully understood. Clinical examination is a reliable diagnostic modality. We report an unusual case of a capsulated hematoma presenting clinically as an inguinal hernia. A laparoscopic transabdominal preperitoneal hernia repair was performed in general anesthesia. The protrusion was intraoperatively and by histopathologic examination identified as a capsulated hematoma. This finding suggests that capsulated hematomas can be a differential diagnosis for inguinal hernia.

**Keywords:** Hematoma; inguinal hernia; differential diagnoses; case report

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## Introduction

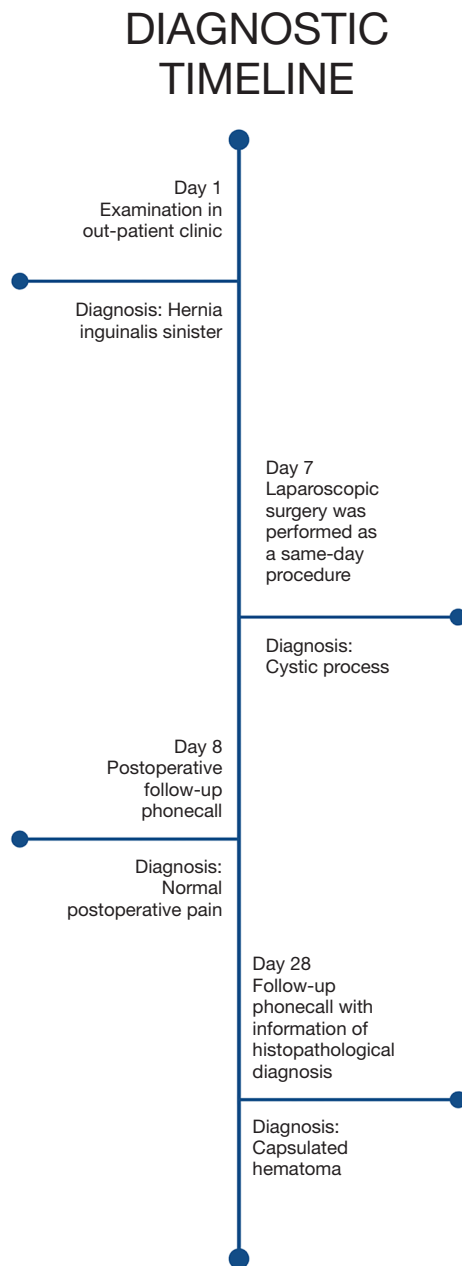
Inguinal hernia is a common condition with a life-time incidence of 27% for men and 3% for women (1). The etiology of inguinal hernia is not fully understood, but several patient- and external risk factors are believed to play a role (2). Differential diagnoses of inguinal hernia include diagnoses with mass-build-up such as lipoma, lymphadenopathy, femoral arterial aneurism, lymphoma, or metastatic neoplasia (3). Also, other authors have previously reported to have mistaken mass-build-up such as a seroma for a recurrent inguinal hernia (4).

For the evident groin hernia, clinical examination is often enough for a correct diagnosis, but in cases of obscure pain or doubtful swelling a combination of clinical and ultrasound examination is recommended (5). In evident groin hernia, a hernia repair is most often the next step. We present the following case in accordance with the CARE Guideline.

## Case presentation

A 28-year-old male police academy recruit presented in the outpatient clinic with a clear protrusion in the left inguinal region. Besides the protrusion, his complaints were mild pain and discomfort that worsened during physical activity and affected his ability to join police academy training. The patient had noticed the protrusion one month prior to the outpatient visit, and he described no trauma in relation to its occurrence. Otherwise, the patient was healthy with no complaints from other organ systems and no previous diseases or operations. A diagnostic timeline can be seen in *Figure 1*.

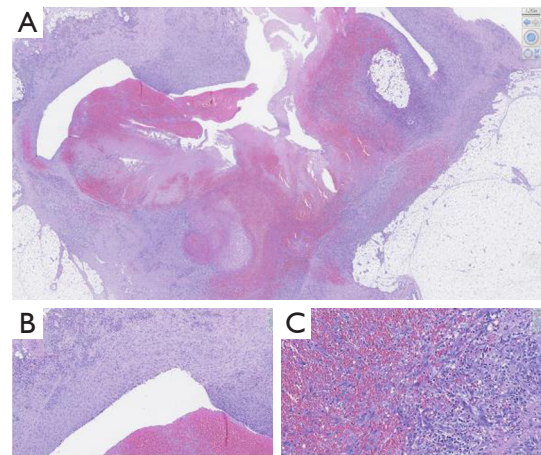
The protrusion was reducible and could be pushed back intraabdominally when manual pressure was applied. The mass was free of surrounding tissue and movable, and coughing made the mass reappear. Surgery was recommended since all these clinical aspects pointed towards an inguinal hernia and it interfered with the



**Figure 1** Diagnostic timeline including important interventions and diagnoses.

patient's daily life.

A transabdominal pre-peritoneal hernia repair (TAPP) was performed according to international guidelines (5). During surgery, no lateral, medial, or femoral hernia was identified. Instead, a 3×3×5 cm<sup>3</sup> movable tumor was found in the inguinal canal that did not adhere to the testicular



**Figure 2** Microscopic images of resected tissue stained with hematoxylin and eosin. (A) Central cystic cavity surrounded by fibrous tissue and fat tissue in the periphery (×12.5). (B) Magnification showing that the cyst contained erythrocytes and fibrin surrounded by reactive connective tissue (×50). (C) Further magnification of erythrocytes, minor vessels, and mononuclear inflammatory cells indicating chronic inflammation (×200).

vessels. There were no visible lymphadenopathies or other pathology. No fascial defect was detected and therefore no mesh was inserted. To rule out malignancy, a urologist was called for a consult during surgery. The tumor was removed in toto and it was decided to send the mass for histopathologic examination.

Intraoperative cross dissection of the mass after removal showed a brown hemorrhagic substance that was believed to be a hematoma. Histological examination confirmed the diagnosis of a hematoma showing erythrocytes in a cystic cavity measuring 14 mm in diameter with a 2 mm thick cystic wall covered in adipose tissue (*Figure 2*). Furthermore, the cystic cavity was found to contain fibrin and chronic unspecific inflammation with cellular connective tissue. There were no histologic signs of malignancy. Also, the mass did not contain any mesothelium indicating that the gastrointestinal tract was not involved in the etiology.

Due to the findings of the intraoperative cross dissection of the mass, the surgeon questioned the patient once more postoperatively about any blows to the inguinal region. This time, the patient revealed that he had in fact had a blow to the region during combat training, but he did not perceive this as a trauma.

Postoperative follow-up was performed one day and

22 days after surgery by the surgical clinic where the surgery was performed. During the follow-up the patient experienced mild pain in the region, which is expected after this kind of surgery. No other adverse events was reported in the follow-up period. At day 10 the surgical staples were removed at the patient's general physician's office. At last follow-up 22 days after surgery, the surgeon informed the patient of the histopathological findings.

## Discussion

Until now, a capsulated hematoma has to our knowledge not been described as a differential diagnosis for inguinal hernia. In the present case report, the capsulated hematoma presented clinically without uncertainty as an inguinal hernia, and the patient reported no history of relevant trauma to the region. This underlines the importance of a combined precise patient history and clinical examination, even when there seems to be no doubt about the tentative diagnosis. The case suggests that questions about traumas or blows to the inguinal region are important when obtaining the patient history. In case of a positive history of a trauma or blow to the region, it might be reasonable to include more diagnostic modalities in the preoperative examination. A limitation in this case is that surgery maybe could have been avoided if such modalities had been utilized. This is currently not a part of international guidelines (5). For the presentation of this case it also serves as a limitation that no intraoperative photos of the capsulated hematoma were available.

Our findings suggest that capsulated hematoma should be included as a differential diagnosis for a first-time inguinal hernia. Also, one could consider if this could be the case for recurrent hernias after a primary repair, especially if a postoperative hematoma occurs.

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## Footnote

*Conflicts of Interest:* All authors have completed the ICMJE uniform disclosure form (available at <http://dx.doi.org/10.21037/ls.2020.03.04>). JR serves as an unpaid

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*Ethical Statement:* The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee(s) and with the Helsinki Declaration (as revised in 2013). Written informed consent was obtained from the patient for publication of this manuscript and any accompanying images.

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