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Metastatic hernial sac tumor in a patient with FUO

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ABSTRACT

The presence of primary or metastatic cancer within a hernia sac is uncommon, which occurs in fewer than 0.5% of all surgically excised sacs (1). This article demonstrates a case of a metastatic pancreatic cancer, one of which presented as an inguinal hernia with fever of unknown origin (FUO). A 44-year-old male presented with a history of FUO and a painful inguinal hernia. Inguinal canal exploration revealed a mass like lesion in the sac without any correlation to abdominopelvic viscera. Postoperative evaluations confirmed moderately differentiated metastatic adenocarcinoma from pancreatic origin.

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1. Introduction

Malignant tumors within hernia sac are classified as three groups, based on the anatomical relation of the tumor to the sac. In intrasacculum tumors, tumors primarily incarcerated in the hernia sac. Saccular carcinomas involve the peritoneum whether as primary or metastatic lesions. Extrasacculum tumors are protrude through the hernial defect but localized outside the hernia such as metastatic inguinal lymph nodes.^{2–6} Fever of unknown origin (FUO) is temperature greater than 38.3 °C (>101 °F) on several occasions for over 3 weeks, for which no specific etiology identified despite one week of inpatient investigation.⁷ A novel classification of FUO consists of: Classic FUO, Nosocomial FUO, Neutropenic FUO and FUO associated with HIV infection. *Classic FUO* corresponds closely to the earlier definition of FUO but it is broader, stipulating three outpatient visits or 3 days in the hospital without elucidation of a cause or 1 week of “intelligent and invasive” ambulatory investigation.^{8,9} Three general categories of illness account for the majority of classic FUO: infections, malignancies and connective tissue diseases (e.g., vasculitis, rheumatoid arthritis). In earlier series, neoplasms were the most common cause of FUO after infections. In more recent researches, a dramatic decrease in the percentage of FUO cases was attributed to improvement in diagnostic studies. Recently, the most common malignancies present with FUO are: lymphoma (especially Non-Hodgkin lymphoma), leukemia, renal cell carcinoma, hepatocellular carcinoma and metastatic liver carcinomas.^{10–15} Pancreatic

adenocarcinomas may cause FUO, although it is not a common symptom of presentation.^{12,16} We report a metastatic saccular hernial sac tumor in a patient presenting with FUO. Postoperative investigations revealed moderately differentiated metastatic adenocarcinoma of pancreas body.

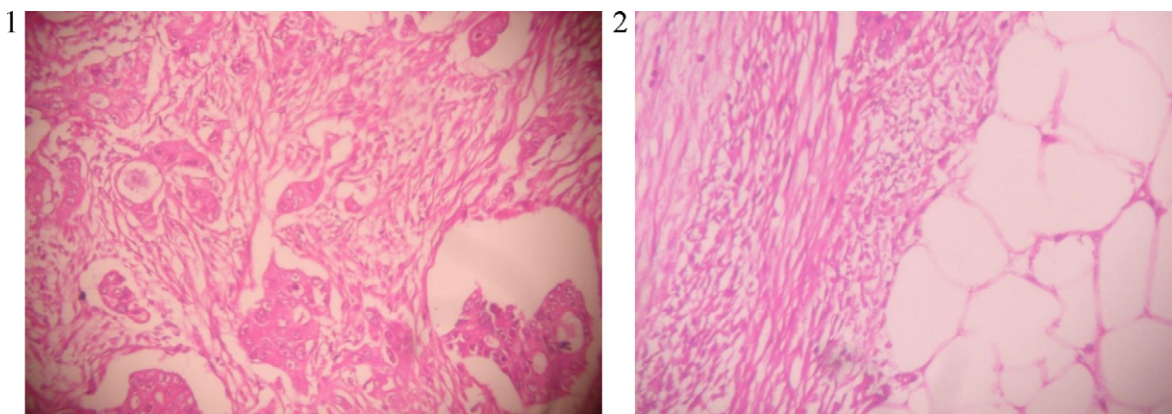
2. Case report

A 44-year-old man was admitted to the general surgery department with a history of inguinal bulging. He had experienced periods of spiking fever (39 °C) in the last 2 months. Following performing multiple evaluation studies (such as blood cell counts, blood chemistries and cultures, liver function tests, serological tests, urinalysis and imaging), no underlying source of FUO was identified.

The only findings were left inguinal hernia and high level of ESR with titer of 60 mm/h. Based on past medical history, the evidence of painless hernia existed since he was a 13-year-old boy. On physical examination, he had a low-grade fever without obvious weight loss or icterus. An inguinal hernia was palpated in the left that extended to the external ring. Ultra sonogram confirmed a left inguinal hernia containing bowel loops. As a result, surgical repair was advised. At inguinal canal exploration, we found a whitish, firm, mass like lesion which invaded to fatty tissue, while it was separated from testis and cord. The mass was resected totally and was evaluated pathologically. Histological findings showed moderately differentiated metastatic adenocarcinoma (Figs. 1 and 2). The fever resolved in the postoperative period and the only abnormal laboratory finding was high CA19-9 titer. The patient was referred for further evaluation and treatment to oncologist. Pathologic and radiologic findings confirmed the pancreas as the primary source of hernial sac mass (Fig. 3).

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Figs. 1 & 2. Moderately differentiated metastatic adenocarcinoma invades fibrofatty tissue.

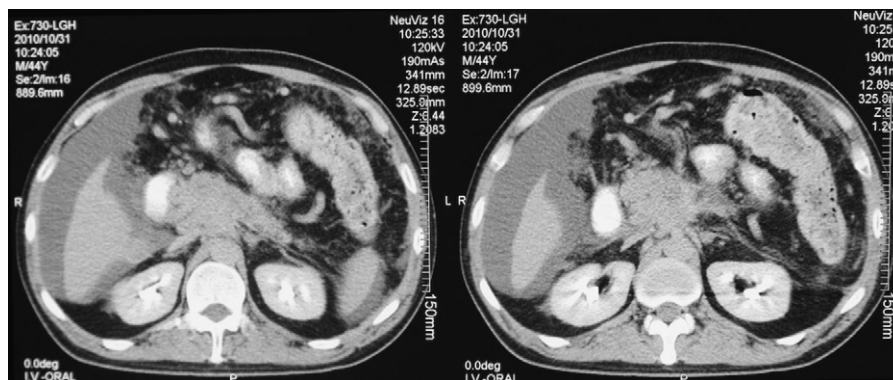


Fig. 3. Computer tomography scan demonstrates ascites and pancreatic mass.

3. Discussion

Metastatic cancer within the hernia sac contents is a rare clinical finding. Metastasis originated from cancers of the colon, ovary, prostate, pancreas, appendix, peritoneum, stomach, rectum have been reported.^{1,4,5} Some authors reported occult malignancies in histopathological evaluation of grossly normal hernial sac. Therefore, routine microscopic evaluation of hernia sacs^{14,17,18} is recommended in a number of articles. Opposing this view, others believed that routine pathological examination is not cost-effective and they concluded that it should be carried out in selected cases such as an irreducible hernia, rapidly enlarging hernia, suspicious lesions. Notwithstanding this rarity, it may be a sign of undiagnosed malignancy.^{4,19,20}

Pancreatic adenocarcinomas may be an underlying cause of hernial sac metastasis, however it is a rare presentation especially in middle-aged man without risk factors.^{1,2,4,12} The most prevalent etiologies of FUO are infections, noninfectious inflammatory diseases, and malignancies. In one of the published series, 73 patients from The Netherlands seen between December 2003 and July 2005 were evaluated for FUO.^{9–15} The following distribution of causes was noted: connective tissue diseases (22%), infection (16%), malignancy (7%), miscellaneous (4%), unknown diagnosis (51%). Pancreatic adenocarcinomas may also associate with FUO, despite this rarity.^{12,16} Herein we report a case of metastatic adenocarcinoma of pancreas in hernia sac of patient with FUO. Our patient was a middle aged man in comparison with old-aged patients in previous reports. Metastatic tumor in an inguinal hernia sac suggests advanced disease and median survival would be three to six months in metastatic exocrine pancreatic cancer.¹⁶

4. Conclusion

A metastatic tumor in a hernia sac is a rare entity that usually occurs in elderly patient. Routine microscopic examination of the hernia sacs is not cost-effective but it is advisable to suspect hernial sac tumor in any patient with FUO and an inguinal hernia.

Conflicts of interest statement

None.

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None.

Ethical approval statement

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

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