CASE REPORT

A case of mistaken identity: Gallstone-induced hepatic abscess mimicking metastasis

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ABSTRACT

We present a challenging case at our facility involving a 70-year-old female with a history of hypertension who was diagnosed with malignant ovarian neoplasia. Preoperative imaging revealed a 6 x 6 x 2.5 cm mass in liver segment 6, initially suspected to be metastatic disease. The patient had undergone a laparoscopic cholecystectomy 11 years prior. Despite repeated biopsies and a high fluorodeoxyglucose (FDG) uptake value of 9.87 on positron emission tomography-computed tomography (PET-CT), the exact nature of the mass remained undetermined. However, during a total abdominal hysterectomy and bilateral salpingo-oophorectomy, an excisional biopsy of the liver lesion identified it as an abscess formed around a gallstone, presumably spilled during the previous cholecystectomy. This case highlights a rare but significant diagnostic challenge, wherein a gallstone shed during gallbladder surgery mimicked a metastatic liver mass. It underscores the importance of considering a patient's surgical history in differential diagnoses, especially when encountering atypical abdominal masses.

Keywords: Gallstones; hepatic mass; mimicking metastasis.

INTRODUCTION

Gallstones are among the most common disorders affecting the biliary system, consisting of solid particles that form in the gallbladder, a small organ beneath the liver responsible for bile storage. While many individuals with gallstones remain asymptomatic, gallstones can lead to significant clinical issues when they obstruct the bile ducts.[1] Such obstructions can result in conditions like cholecystitis, choledocholithiasis, and pancreatitis, with symptoms ranging from mild abdominal discomfort to severe acute pain.[2] Management of symptomatic gallstones typically involves cholecystectomy, the surgical removal of the gallbladder, which is often performed laparoscopically.[3] In rare cases, however, gallstones may inadvertently be dislodged into the peritoneal cavity during cholecystectomy. These ectopic gallstones may remain asymptomatic and undetected for years, presenting a diagnostic challenge when they eventually cause complications. Complications range from abscess formation to inflammatory masses, often misleading clinicians due to their nonspecific presentation and tendency to mimic more severe pathologies, such as tumors or metastatic disease.[4] Our aim in this case report is to elucidate the tumor-mimicking intra-abdominal involvement in a patient who had undergone cholecystectomy years earlier due to acute abdominal symptoms. This study underscores the importance of a comprehensive surgical history and a high degree of suspicion in patients presenting with atypical abdominal findings post-cholecystectomy.

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CASE REPORT

We present the case of a 70-year-old woman with a known history of hypertension, referred to our department for the evaluation of malignant ovarian neoplasia. Her past medical history was significant for a laparoscopic cholecystectomy performed 11 years prior due to symptomatic cholelithiasis. The patient's current presentation and medical history raised concerns regarding potential metastatic involvement.

Informed consent was obtained from the patient in both written and verbal form before the operation. During the preoperative workup, a dynamic contrast-enhanced liver computed tomography (CT) revealed a 6 x 6 x 2.5 cm mass in segment 6 of the liver (Fig. 1). This finding prompted a thorough oncological evaluation. Given the patient's age, history, and the lesion's size, differential diagnoses included primary liver neoplasia or metastatic disease. Subsequent biopsies of the liver mass were performed; however, results were inconclusive, showing no definitive diagnostic features. A positron emission tomography-computed tomography (PET-CT) scan further complicated the diagnostic process, reporting a high fluorodeoxyglucose (FDG) uptake with a value of 9.87, commonly associated with malignancies (Fig. 2).

Proceeding with the intended surgical plan, the patient underwent a total abdominal hysterectomy and bilateral salpingo-oophorectomy. Additionally, an excisional biopsy of the liver lesion was performed. Histopathological analysis unexpectedly revealed that the liver lesion was an abscess, characterized by an abundance of plasma cells and chronic inflammatory fibromuscular tissue. Notably, a gallstone was identified within the lesion, suggesting its etiology. It was postulated

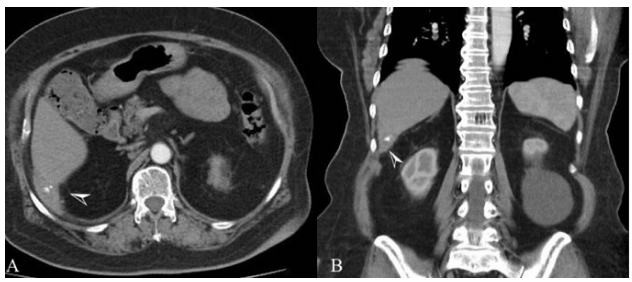

Figure 1. CT Scan: **(a)** Axial plane. **(b)** Coronal plane.

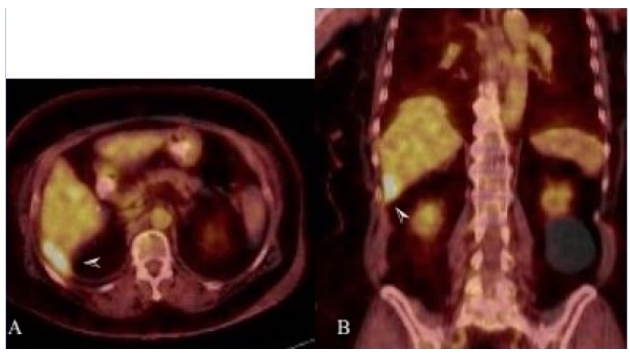

Figure 2. PET-CT Scan: **(a)** Axial plane **(b)** Coronal plane.

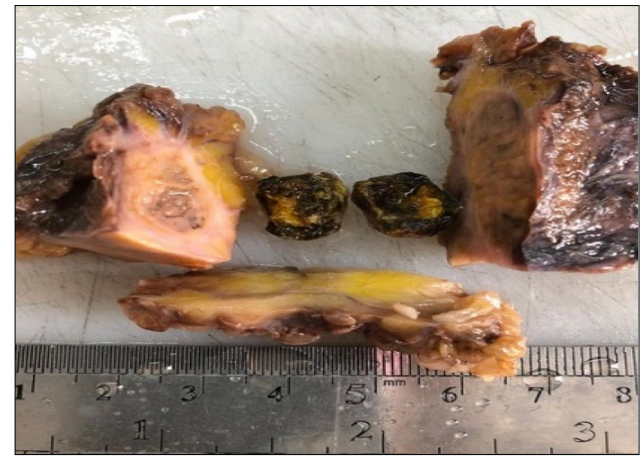

Figure 3. Macroscopic view of specime.

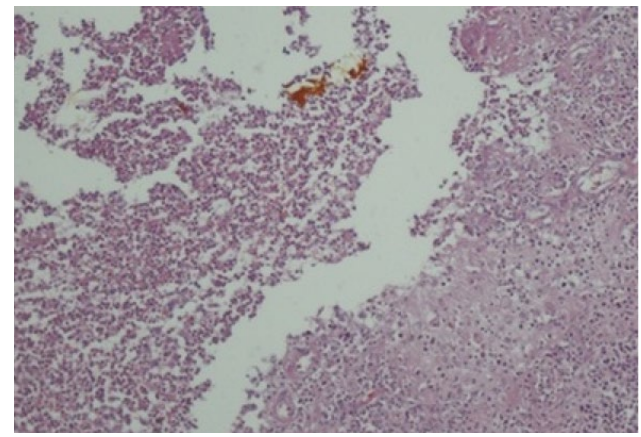

Figure 4. Histopathological examination: There is considerable dense infiltrate of polymorphous leukocytes, plasma cells, and macrophages, some multinucleated. (HEx10)

that the gallstone had likely been inadvertently dislodged into the peritoneal cavity during the previous cholecystectomy, leading to an inflammatory process that eventually presented as a hepatic mass (Figures 3 and 4). The patient's postoperative course was uneventful, and she was discharged in stable condition with appropriate follow-up plans.

DISCUSSION

This case provides a rare and instructive example of how a gallstone from a previous cholecystectomy can be misinterpreted as liver metastasis. The literature includes case reports in which gallstones have been mistaken for peritoneal cancer, cervical cancer, and abdominal wall cancer.[5-7] The critical takeaway is the importance of a patient's surgical history in the diagnostic process. The patient's previous gallbladder surgery, initially perceived as unrelated, proved central to understanding her current condition. This underscores the necessity for physicians to always consider past surgical interventions when diagnosing new symptoms.

The difficulties we encountered in diagnosing the liver mass also highlight the limitations of relying solely on imaging and

biopsy results.[8] Despite numerous examinations, hepatic actinomycosis has also been reported to mimic tumors in other patients.[9] In this case, both methods suggested a possible malignancy, initially leading us down the wrong diagnostic path. This case demonstrates that even advanced diagnostic tools like PET-CT scans must be used cautiously, always considering the patient's full medical history and current symptoms.[10]

Furthermore, this case highlights the rare occurrence of gallstones migrating to other areas of the body following cholecystectomy. Typically, these displaced gallstones remain asymptomatic and undetected. However, as demonstrated here, displaced gallstones can occasionally lead to significant health issues and mimic more serious conditions. This serves as a reminder for physicians to consider a broad differential diagnosis for unusual abdominal or liver findings, particularly in patients with a history of gallbladder surgery.[11]

CONCLUSION

In summary, this case illustrates a rare but significant clinical scenario in which a gallstone, dislodged during a previous cholecystectomy, masqueraded as a hepatic mass initially suspected to be metastatic. It reinforces the importance of incorporating a patient's complete surgical history into current diagnostic evaluations. This case is a stark reminder that even routine surgical procedures can have long-term, unexpected consequences. It also underscores the limitations of imaging and biopsy in specific clinical scenarios, highlighting the need for a comprehensive approach to diagnosis. For practitioners in gastroenterology and surgery, this case emphasizes the necessity of considering all potential differential diagnoses, especially in patients with a history of abdominal surgery, to avoid misdiagnosis and ensure optimal patient care.

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REFERENCES

1. Radunovic M, Lazovic R, Popovic N, Magdelinic M, Bulajic M, Radunovic L, et al. Complications of laparoscopic cholecystectomy: our experience from a retrospective analysis. Open Access Maced J Med Sci 2016;4:641–6. [CrossRef]
2. Gallstone Disease: Diagnosis and Management of Cholelithiasis, Cholecystitis and Choledocholithiasis. London: National Institute for Health and Care Excellence (NICE); October 2014.
3. Luo D, Chen XP, Dai Y, Kuang F, Kang MJ, Li B, et al. Cholecystectomy and risk of liver disease: a systematic review and meta-analysis of 27 million individuals. Int J Surg 2023;109:1420–9. [CrossRef]
4. Sathesh-Kumar T, Saklani AP, Vinayagam R, Blackett RL. Spilled gall stones during laparoscopic cholecystectomy: a review of the literature. Postgrad Med J 2004;80:77–9. [CrossRef]
5. D'Urso A, Mutter D. Retained gallstone mimicking an abdominal wall metastasis in a patient with lung cancer 7 years after laparoscopic cholecystectomy. J Visc Surg 2022;159:257–9. [CrossRef]
6. Pouyez C, Dami M. Gallstone mimicking metastatic cervical cancer. Int J Gynecol Cancer 2021;31:1496. [CrossRef]
7. Garaud S, Stolz A. Dropped gallstones mimicking peritoneal metastasis: A case report. Radiol Case Rep 2018;13:878–81. [CrossRef]
8. Vyas M, Jain D. A practical diagnostic approach to hepatic masses. Indian J Pathol Microbiol 2018;61:2–17. [CrossRef]
9. Hsieh YC, Chien JCW, Wu TI, Chan WP. Pelvic mass mimicking advanced tubo-ovarian malignancy with hepatic metastasis. Ann Acad Med Singap 2021;50:371–3. [CrossRef]
10. Kitajima K, Nakajo M, Kaida H, Minamimoto R, Hirata K, Tsurusaki M, et al. Present and future roles of FDG-PET/CT imaging in the management of gastrointestinal cancer: an update. Nagoya J Med Sci 2017;79:527–43.
11. Helme S, Samdani T, Sinha P. Complications of spilled gallstones following laparoscopic cholecystectomy: a case report and literature overview. J Med Case Rep 2009;3:8626. [CrossRef]

OLGU SUNUMU - *ÖZ*

Yanlış kimlik olgusu: Metastazı taklit eden safra taşı kaynaklı karaciğer apsesi

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Özgeçmişinde hipertansiyon ve over malign neoplazisi hikayesi bulunan 70 yaşında kadın hasta bu vakada tarafımızca değerlendirilmiştir. Ameliyat öncesi görüntülemede karaciğer segment 6'da başlangıçta metastaz şüphesi taşıyan 6x6x2.5 cm boyutlarında kitle görüldü. Hasta 11 yıl önce laparoskopik kolesistektomi geçirmişti. Tekrarlanan biyopsilere ve PET-CT'de 9.87'lik anlamlı FDG tutulumuna rağmen kitlenin orjini teşhis edilemedi. Bununla birlikte, total abdominal histerektomi ve iki taraflı salpingo-ooferektomi sırasında, karaciğer lezyonunun eksizyonel biyopsisi, bunun muhtemelen önceki kolesistektomi sırasında dökülen safra taşı çevresinde oluşan bir apse olduğunu gösterdi. Bu vaka, safra kesesi ameliyatı sırasında dökülen safra taşının karaciğerdeki metastatik bir kitleyi taklit ettiği nadir fakat önemli bir tanısal zorluğun altını çizmektedir. Özellikle atipik karın kitleleriyle karşılaşıldığında ayırıcı tanıda önceki cerrahi öykünün dikkate alınmasının önemini vurgulamaktadır.

Anahtar sözcükler: Hepatik kitle; safra taşları; metastazı taklit eden.

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