

## Diagnostic Challenge in a Cystic Lesion of the Epigastrium: A Case Report

### Epigastriumun Kistik Lezyonunda Tanısal Zorluk: Olgu Sunumu

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#### ABSTRACT

A diagnosis of cystic lesion of epigastrium is challenging without strong evidence from history and physical examination. A 33-year-old lady has an epigastric mass without hepato-pancreaticobiliary symptoms, was unable to be diagnosed through radiological assessment and biochemical markers. She was diagnosed with hepatobiliary cystadenoma through intraoperative assessment. We present a case of biliary cystadenoma with diagnostic challenge.

**Key Words:** Computed tomography, cystadenoma, hepatectomy, diagnostic imaging

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#### ÖZET

Epigastriyumun kistik lezyonunun tanısı, öykü ve fizik muayeneden güçlü bir kanıt elde etmeden zordur. Otuzüç yaşında bir kadın, hepato-pankreatik yandaş semptomları olmayan epigastrik kitle, radyolojik değerlendirme ve biyokimyasal belirteçlerle teşhis edilemedi. İntraoperatif değerlendirme yoluyla hepatobilier kistadenom tanısı aldı. Tanı zorlukları olan biliyer kistadenom olgusunu sunuyoruz.

**Anahtar Sözcükler:** Bilgisayarlı tomografi, kistadenom, hepatektomi, tanısal görüntüleme

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#### INTRODUCTION

A diagnosis of cystic lesion proves to be an undoubted challenge. History alone is scanty unless patient has other underlying history of chronic liver disease or pancreatitis. Physical examination might be limited especially in small lesions. Hence the diagnosis is usually supported by radiological findings.

Although ultrasonography is widely used, it is limited especially in localizing the origin and relation to the surrounding structures in view of operator dependent (1). At present, computed tomography (CT) is the primary choice for assessment of intra-abdominal masses. However, it does come with certain limitations, which can be daunting. Magnetic resonance cholangiopancreatography (MRCP) is another useful radiology imaging for assessment of intraabdominal cystic lesion. We are presenting a case of 33-year-old lady presented with cystic lesion at the epigastrium in which despite abdominal CT, the diagnosis remains elusive and doubtful.

#### CASE REPORT

A 33-year-old lady presented with persistent epigastric discomfort with mass for two months. She had no symptoms suggesting of gastric outlet or intestinal obstruction. No significant gynaecological or previous medical history identified. She denied taking oral contraceptive pills. Clinically, she was neither pale nor jaundice. There were absences of stigmata of chronic liver disease. A firm, non-tender, ill-defined mass occupying the epigastric region felt. It measured 5 cm below the subcostal margin. No ascites was detected. Other systems were unremarkable.

Hematologic and biochemical investigations were unremarkable. Tumour markers were also within normal range. CT scan of the abdomen demonstrated a huge solitary multiloculated cystic mass measuring 10 x 10 x 7 cm (Figure 1). The origin of the lesion was not clearly identified as no definitive plane was seen between the liver and pancreas.

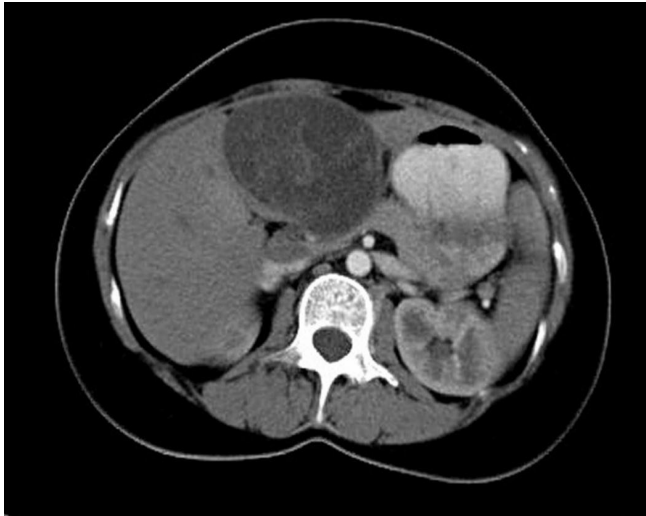
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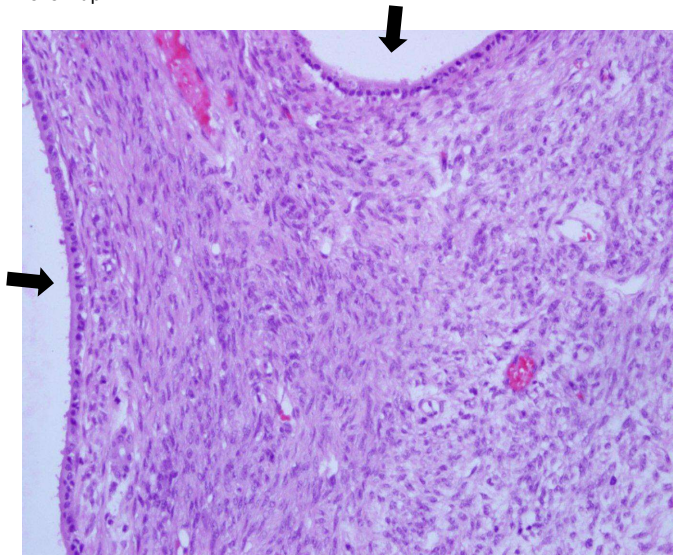
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The liver was non-cirrhotic. Endoscopic ultrasound (EUS) was performed and suggestive of pancreatic body mass. Since CT scan and EUS had a contradicting finding, diagnostic laparoscopy with definitive surgery was decided. The surgery revealed a cystic mass arising from left lobe of the liver. Pancreas was normal and free from the lesion. Hence, left hemi-hepatectomy was performed.



**Figure 1:** Axial CT abdomen revealed suspicious lesion arising from left lobe of liver or pancreas

Histologically, the lesion corroborated with a rare benign mucinous hepatobiliary cystadenoma, evidenced by the presence of multiloculated cysts lined by single-layered mucin secreting columnar epithelium with spindle-shaped ovarian-like stroma (Figure 2). Surrounding liver tissue appears unremarkable with free surgical margin. The patient recovered well postoperatively. Since no malignant cells identified, patient was discharged from follow up.



**Figure 2:** Multiloculated cysts lined by a single-layered mucin secreting columnar epithelium (black arrow) with spindle-shaped ovarian-like stroma (white arrow) (H&E, x20 magnification)

## DISCUSSION

Imaging has been part of our investigation tool for the past century. The development of non-invasive to invasive radiological techniques has helped us in understanding the disease without the need to perform any surgeries. Its technology allows us to have a more realistic and practical decision-making. In surgical point of view, imaging has helped us to suitably plan our steps and subsequent management in dealing complex cases.

Option of imaging in surgery includes ultrasonography, CT scan, and MRI, but the later two are considered the best modalities for a diagnostic purpose. Even CT scan and MRI exhibit sensitivity of 86% and 84% respectively, the imaging alone might be misleading and deceptive (2). The history of presentation may be little in information and occasionally the physical examinations are rendered inadequate. Blood parameters although give us a presumptive diagnosis but its usefulness remains dubious in benign diseases.

Ultrasound is considered as initial non-invasive imaging tool in every center as it is rapid, inexpensive, and easily be repeated when necessary. However, its role remains limited especially in detection of intra-abdominal pathology. The drawbacks include it is operator dependent, limited in obesity, presence of bowel gases, surgical dressing and stoma also hinder its success. Ultrasound only renders 50-70% accuracy in order to detect retroperitoneal organ especially pancreatic pathology (3).

Cystic lesions of the liver have nearly always been confirmed by imaging specifically using abdominal CT and MRI. They are more reliable, accurate, and considered as the gold standard in detection of liver and pancreatic mass (4). In contrast, they are more time consuming, expensive, and expose the patient to radiation specifically in CT scan. CT scan will assist recognition of lesion wall thickness, the presence of septa, calcification, internal solid nodule and assessment of enhancement pattern of lesion (5). Presence of a "claw sign" will ascertain the lesion arising from a solid organ. This sign indicates that for an intraparenchymal lesion, the normal parenchyma will be seen surrounding the lesion in a sharp angle (6).

The MRCP acquires heavily T2-weighted images, in which static or slow flow fluid structures including biliary tree and pancreatic duct appear as high signal intensity structures in the study. Cystic lesion which is originated from the liver or pancreas will show continuity with the biliary tree or pancreatic duct (7).

The enigma of this present case revolves whether its origin from liver or pancreas, hence determining the choice of surgical intervention and patient's overall outcomes (8). The surgical intervention in liver pathology only renders on liver resection specifically left hemihepatectomy as in this reviewed case. In a perfect preoperative surgical candidate, a smooth intraoperative and postoperative effect is warranted. Risk of bleeding, infection, atelectasis and deep vein thrombosis are less, hence promising earlier hospital discharge.

However, pancreatic lesion subjects to a more drastic and radical approach. Whipple's pancreaticoduodenectomy or total pancreatectomy might be the desired option. In contrast to liver resection, patient will be subjected to more surgical complexity, in addition with a higher risk of bleeding and leak from anastomotic site especially in Whipple's procedure. During total pancreatectomy, spleen occasionally is non-salvageable. The patient needs to be on lifelong insulin and pancreatic juice supplement in addition to risk of non-encapsulated bacteria if splenectomy is performed.

When a solitary multi-cystic lesion arises from liver parenchyma, the most important diagnostic dilemma is to exclude liver cystadenoma. Other differential diagnoses include simple cyst, biliary hamartoma, Caroli disease, undifferentiated embryonal sarcoma, cystic subtypes of primary liver neoplasms, cystic metastases, pyogenic and amebic abscesses, and biloma (5). Biliary cystadenomas are rare that represent less than 5%, typically multilocular neoplasms of the bile ducts that are more frequently encountered in women (5). They occur predominantly in middle-aged group (mean age, 38 years) and are considered premalignant lesions (5). Typically, the ultrasonography shows multicystic appearance with thin internal septations and possibly mural papillary growths. Abdominal CT demonstrates a single area with thin walls and internal septations; intravenous injection of contrast medium enhances the density of the cystic wall and may visualize the intracystic septations and the mural nodules.

## CONCLUSION

The aim for radiology is to determine the extension of the lesion rather than as a sole diagnostic tool. It will subsequently influence choice of surgical intervention as well as patient's future outcome.

## Conflict of interest

No conflict of interest was declared by the authors.

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