

Case Report

Gall Bladder Mucocele : A rare presentation

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Abstract:

Gallbladder mucocele, also known as gall bladder hydrops, is an uncommon illness that causes the gallbladder characterized by the distension of the gallbladder due to the accumulation of thickened mucous secretions. It is often associated with gallstones and can lead to life-threatening complications if not diagnosed and managed promptly. The authors describe the case of a 38-year-old male patient who presented to the surgery department with a severe pain in the right upper quadrant of the abdomen. Abdominal ultrasonography was performed which confirmed the presence of gall stones along with the gall bladder hydrops or mucocele of the gall bladder. The anatomical aspects, clinical presentation and the imaging findings of this interesting case has been discussed in the current case report.

Key words: Gall bladder hydrops, ultrasonography, right upper quadrant, abdominal pain, mucocele.

Introduction:

Gallbladder hydrops, also known as hydropic gallbladder or gallbladder mucocele, develops as a result of the cystic duct being blocked, frequently by a gallstone. Gallstone disease is extremely prevalent. Between the ages of 20 and 74, about 14 million men and 6 million women in the United States (US) alone have gallstones. The high prevalence of gallstones is caused by a number of variables, including age, obesity, and hormones. When the gallbladder is swollen and contains mucus, water, or clear liquid instead of bile, gallbladder hydrops might be diagnosed. It is brought on by a persistent obstruction of the cystic duct, typically brought on by an impacted gallstone [1]. Acute or chronic cholecystitis is a sign of this illness in patients, but most gallstones themselves are asymptomatic. The authors of this case report describe a patient who visited the surgery department complaining of worsening right-sided stomach pain.

Case Presentation:

A 38-year-old male patient presented to the surgery department of Sree Balaji Medical college and hospital, BIHER, Chennai with severe pain in the right upper quadrant of the abdomen, intermittent nausea and vomiting. For the previous six months,

he claimed to have had sporadic episodes of pain, which were usually light and brief. However, he decided to consult a doctor because his most recent symptoms were more serious and persistent. The patient had increased cholesterol levels and a recent history of type II diabetes mellitus. The patient denied any history of fevers, chills or shortness of breath. However, he had symptoms of chest pain and urinary symptoms. The patient does not smoke cigarettes or drink alcohol. Physically, the patient had tenderness in the right upper quadrant of the abdomen and appeared to be in pain. Positive Murphy's sign suggested that the gallbladder may be inflamed or irritated. Jaundice was not present, and vital signs were within normal ranges.

Laboratory tests showed increased liver enzymes, such as alanine aminotransferase (ALT) and aspartate aminotransferase (AST). Significant biliary blockage was ruled out by the normal levels of total and direct bilirubin. An abdominal ultrasound revealed gallstones and a dilated gallbladder filled with a hypoechoic substance that was consistent with gallbladder mucocele. After the patient was admitted to the hospital, conservative care, such as fasting and intravenous fluid delivery, was started. To avoid bacterial overgrowth in the gallbladder, antibiotics were given. To reduce pain

and discomfort, analgesics were provided. Surgery was planned because of the gallstones and the possibility of complications from gallbladder mucocele. The patient underwent an elective laparoscopic cholecystectomy when his condition was stabilised and improved. A dilated gallbladder packed with a thick, viscous mucous substance as well as several gallstones were seen intraoperatively. In addition to carefully dissecting and removing the gallbladder, the cystic duct and

artery were tied off. The patient made a smooth recovery following surgery and was released on the third day. His postoperative course was uneventful, and the patient regularly attended follow-up appointments. The abdominal pain and gastrointestinal problems, according to him, have completely disappeared. The presence of chronic cholecystitis with signs of ongoing inflammation and gallstones was verified by a histopathological investigation of the excised gallbladder.

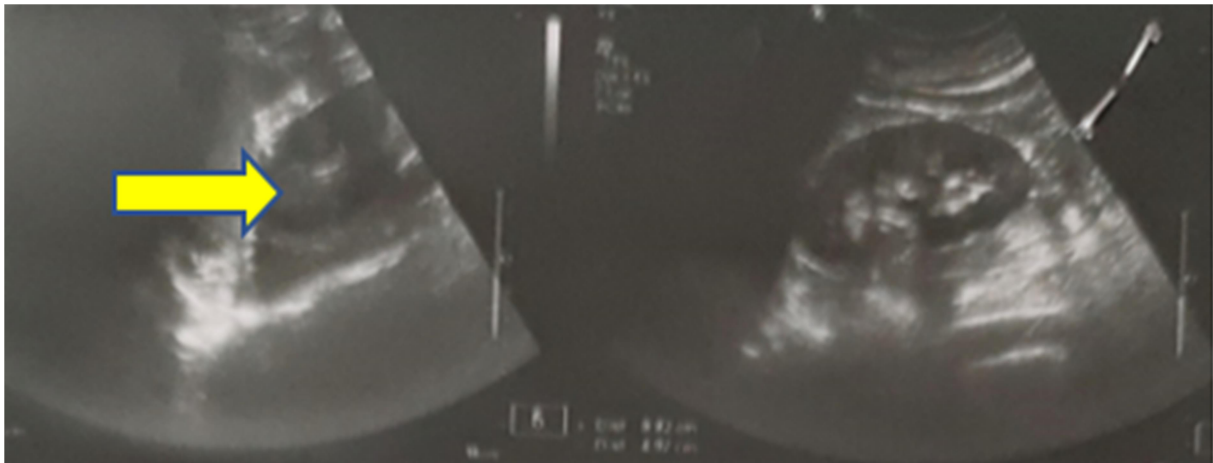


Figure 1: An ultrasound image of the patient showing few hyperechoic calculi with posterior acoustic shadowing at the neck of the gall bladder causing over distension of the gall bladder. Increased wall thickness with minimal peri GB collection indicating Cholelithiasis with cholecystitis.



Figure 2: Shows the laparoscopically removed gall bladder with the calculus measuring about 16mm in diameter.

Consent and permissions: The case was initially presented to the surgical department, but after learning about it, the anatomical sciences department requested to present and publish the case. For this reason, the patient's approval to retain

his privacy and identity was secured, as well as verbal authorization from the head of the surgery department was obtained. The surgical department was then contacted for all pertinent case information.

Discussion:

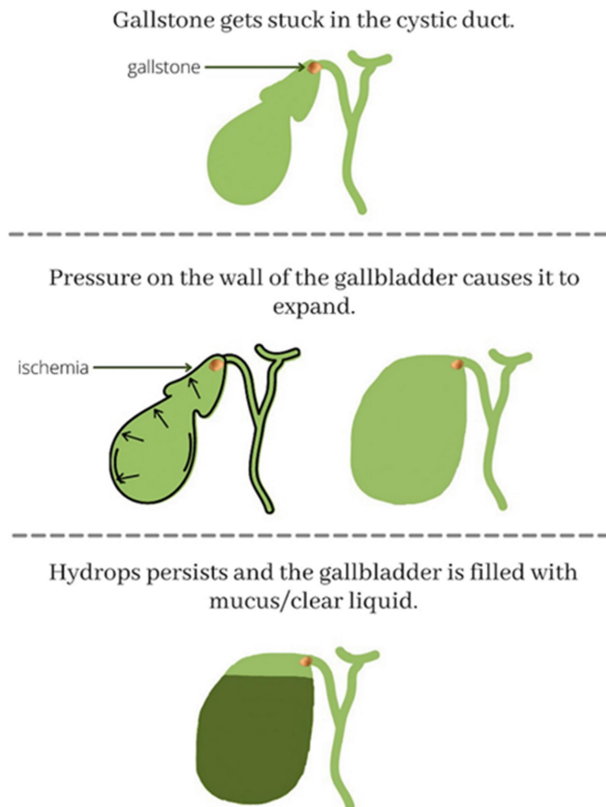


Figure: Illustrated image depicting the process by which the mucous and other fluids accumulate in the gall bladder. (Picture credits : Rhea Sharma , article 2021 Sharma et al. Cureus 13(9): e18159. DOI 10.7759/cureus.18159).

Gallbladder mucocele is a rare but potentially serious condition that requires early diagnosis and management. The combination of gallstones and mucocele increases the risk of complications, including cholecystitis, biliary obstruction, and gallbladder rupture. Timely surgical intervention, such as laparoscopic cholecystectomy, is the treatment of choice to prevent further complications and provide definitive management. Gall bladder mucocele generally occurs when the gall bladder stone blocks the cystic duct. which leads to an excessive amount of mucous, water and other clear liquid to accumulate. Between meals, the gallbladder stores and concentrates bile. It significantly aids in the modulation of bile

composition by a number of secretory and absorptive enzymes. Gallstones can be caused by changes in gallbladder motor function, which can also alter the makeup of bile acids. Gallstones may occur if the bile is not completely evacuated by the gallbladder due to improper gallbladder function. A single gallstone or several can range in size from the size of a grain of sand to that of a golf ball. Gallstones may become lodged in the cystic duct, the neck of the gallbladder. This causes the gallbladder mucosa to reabsorb bile salts, which it eventually replaces with clear, watery mucus. As a result, the gallbladder expands due to strain on its walls. The mucosa will eventually be replaced by clear or watery mucus [1]. Both men and

women can have hydropic gallbladder, albeit some groups are predisposed to it more than others. Studies have indicated that patients in their 40s, women and pregnant patients, and obese people are more likely to have a hydropic gallbladder. Acute illnesses, such as those following gastric bypass, or severe weight loss may further raise the risk. Gallstones are more common in those who have blood cell disorders and oestrogen users, as oestrogen raises bile cholesterol. As a result, compared to men, women taking birth control pills containing oestrogen have a doubled risk of developing gallstones. patients with long-term conditions. Gallstone development is also increased in conditions like diabetes because of neuropathy [1].

A mix of clinical characteristics, radiographic examinations, and surgical results are used to identify gallbladder hydrops. Unless a concurrent gallbladder pathology (such as an elevated white cell count and C-reactive protein in acute cholecystitis, deranged cholestatic liver function tests in choledocholithiasis, or elevated lipase in pancreatitis or pancreatic malignancies) is contributing to symptoms, blood is typically unremarkable [2]. A swollen and oedematous gallbladder with mobile or impacted non-mobile gallstones in the cystic duct or Hartman pouch would be seen on a US or CT scan [2]. Gallbladder hydrops is typically not identified before to surgery and is instead unintentionally found after laparoscopic cholecystectomy [3]. Gallbladder hydrops is frequently diagnosed intraoperatively after decompression of the gallbladder when clear

mucous-like fluid rather than green or brown bile is suctioned.

The transverse diameter of the adult gallbladder is 3-4 cm, and its length ranges from 7 to 10 cm [4]. Cholecystitis can result in dangerous adverse effects including gallbladder rupture and is regarded to be inflamed when the gallbladder is enlarged [5]. Blood tests, USG (abdominal or endoscopic), a CT scan, or a hepatobiliary iminodiacetic acid (HIDA) scan can all be used to detect this illness. To reduce gallbladder inflammation, hydropic gallbladder frequently necessitates hospitalisation. Intravenous hydration, analgesia, and occasionally antibiotics are used as acute therapies. Since the condition frequently returns, cholecystectomy surgery will eventually be necessary to treat it [6].

In the US, 300,000 cholecystectomies are carried out each year [7]. It can be carried out openly occasionally or laparoscopically, which is less invasive. Bile leak, haemorrhage, infections, and damage to adjacent tissues are among risks associated with cholecystectomy [8].

Conclusion:

This case report highlights the importance of considering gallbladder mucocele in patients presenting with gallstones and atypical symptoms. Early diagnosis and appropriate management, including surgical intervention when indicated, are crucial for ensuring favourable outcomes and preventing potentially life-threatening complications. Healthcare providers should be aware of this rare condition to initiate prompt and effective management.

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