

Gallbladder Mucocele: Two Case Reports

Safra Kesesi Mukoseli: İki Olgu Sunumu

 Ersoy Ercihan¹,  Şirin Küçük²,  Ramazan Serdar Arslan³,  İzzet Göker Küçük⁴

¹Usak Training and Research Hospital, Department of Pathology, Usak, Turkey

²Usak University, Faculty of Medicine, Department of Pathology, Usak, Turkey

³Usak Resarch and Training Hospital, Department of General Surgery, Usak, Turkey

⁴Kemaloz Family Health Center, Usak, Turkey

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Sorumlu Yazar/Corresponding Author:

Şirin Küçük,

Usak University, Faculty of Medicine, Department of Pathology, Usak, Turkey

e mail: ata2012irin53@yahoo.com

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ÖZET

Safra kesesi mukoseli (GBM), yarı katı hareketsiz mukoid materyalin fonksiyonel veya mekanik nedenlerle mesane fundusunda birikmesi sonucu oluşan şişkin safra kesesi gelişimidir. Buna ayrıca safra kesesi hidropsu adı da verilir. İnsidansı yaklaşık %3'tür. Azalmış safra akışı, azalan safra kesesi hareketi ve safra kesesi lümenindeki su emilimindeki değişiklik, safra çamuruna neden olur ve dolayısıyla mukosel gelişimine zemin hazırlar. İlk olgu, sağ üst kadranda ve epigastrik bölgede bulantı, kusma, gaz, hazımsızlık ve ağrı şikayetleri ile kliniğe başvuran 26 yaşında kadın hastaydı. Abdominal USG'de safra kesesi duvarının normal olduğu ve safra kesesi lümeninde 14 mm çapında taş ve çamur olduğu belirlendi. İkinci olgu ise mide ağrısı ve bulantısı şikayetleriyle kliniğe başvuran 34 yaşında bir kadın hastaydı. İkinci olguya USG yapılmadan hasta operasyona alındı. Her iki olguya da laparoskopik kolesistektomi yapıldı ve histopatolojik incelemede; lümeninde mukoid materyal, yassılaştırmış epitel ile fokal alanlarda dağınık inflamatuvar hücre infiltrasyonu izlendi. Bu bulgular eşliğinde olgulara "Safra Kesesi Mukoseli" tanısı verildi. Bu makalede safra kesesi mukoseli tanısı konulan iki olgunun klinikopatolojik sonuçlarının literatür bilgileriyle birlikte tartışılması amaçlanmıştır.

Anahtar Kelimeler: Mukosel, Safra Kesesi, Kolesistektomi, Kolesistit

ABSTRACT

Gallbladder mucocele (GBM) is the development of a swollen gallbladder caused by the accumulating of semi-solid immobile mucoid material in the gallbladder fundus for functional or mechanical reasons. This is also called gallbladder hydrops. Its incidence is about 3%. Decreased bile flow, decreased gallbladder movement, and altered water absorption in the gallbladder lumen cause biliary sludge and thus predispose to the development of mucocele. The first case was a 26-year-old female patient who presented to the clinic with complaints of nausea, vomiting, flatulence, indigestion and pain in the epigastric region and the right-upper quadrant. On abdominal USG, it was determined that the gallbladder wall was normal and there were stones and sludge with a diameter of 14 mm in the gallbladder lumen. The second case was of a 34-year-old female patient who applied to the clinic with complaints of stomach pain and nausea. The patient was taken to the operation without performing USG in the second case. Laparoscopic cholecystectomy was performed in both cases, and histopathological examination revealed mucoid material in the lumen, flattened epithelium, and inflammatory cell infiltration in the focal areas. The diagnosis of 'Gallbladder Mucocele' was given to the patients accompanied by these findings. In this article, is discussed the clinicopathological results of two cases diagnosed with gallbladder mucocele together with the literature.

Key words: Mucocele, Gallbladder, Cholecystectomy, Cholecystitis



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INTRODUCTION

Gallbladder mucocele is the gallbladder distending because of the accumulation of semi-solid immobile mucoid material in the gallbladder fundus due to functional or mechanical reasons (1-8). The incidence of GBM is approximately 3%. Decreased bile flow, decreased gallbladder motion, and changes in water absorption in the gallbladder lumen are the predisposing factors for development of biliary sludge. Biliary sludge may play a role as a factor accelerating the development of biliary mucoceles. Besides, mucocele is likely a small part of a complex disease process incorporating the gallbladder wall inflammation (1,7). Mucin hypersecretion is a typical physiological reaction to any epithelial mucosa. In other words, mucocele may originate from the chronic injury of the epithelial mucosa of biliary system (3). The density of secretion changes with the changes in the lining surface of the gallbladder. The hypersecretion of mucus leads to the accumulation of thick gelatinous bile within the gallbladder. Viscosity increasing for weeks or months leads the thick gelatinous material to occupy all the gallbladder lumen and, under specific conditions, to be also present also in the canals. Gallbladder mucocele leads to the blockage of cystic canal by an affected gallstone. This is also called gallbladder hydrops. Patients apply for the signs and symptoms of acute or chronic cholecystitis (1,2).

In this article, 26- and 34-year-old women applying for with complaints of acute stomachache and nausea and who were surgically treated successfully are presented since they are rarely seen cases.

CASE REPORT

Case 1

The first case was a 26-year-old woman, who applied to the clinic for complaints of nausea, vomiting, flatulence, indigestion, and pain in the epigastric region and the right-upper quadrant. Having pain in the epigastric region and the right upper quadrant occasionally for approx. 2-3 years, the patient stated that she had indigestion, flatulence, and gas problem especially after eating very greasy foods. The patients, who intermittently experienced nausea and vomiting after the pain, has applied to many healthcare facilities for these complaints. The patient has never had jaundice and, after the severity of complaints increased and back pain was added, she applied to the polyclinic. On physical examination, bowel sounds were normoactive, and sensitivity was detected in the right-upper quadrant and epigastric region in the palpation. No rebound, defense, or organomegaly was found, traube was open and Murphy's sign was observed. Then, in abdominal USG, it was determined that the gallbladder wall was normal and there was a 14-mm-diameter stone and sludge in the gallbladder lumen. The patient was hospitalized

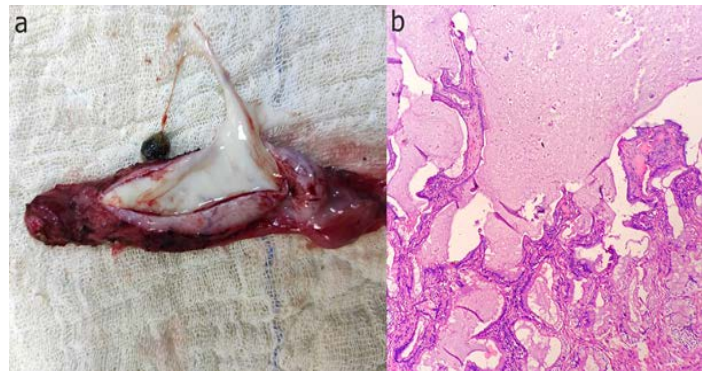


Figure 1. a: Gallbladder containing mucoid material and 14 mm diameter stone (macroscopy of the first case), **b:** Mucoid material in the lumen, flattened epithelial-lined surface and local inflammatory cell infiltration (microscopy of the first case) (H&E,x40).

on the preliminary diagnosis of cholelithiasis. No abnormal results were found in the hemograms or biochemical tests. Then, laparoscopic cholecystectomy surgery was performed. The specimen taken to the pathology was examined using macroscopy; it was determined that the gallbladder had the dimensions of 7.5x3 cm, contained mucoid material and had a 14-mm-diameter stone. From a microscopic aspect, the findings were mucoid material in the lumen, surface coated with flattened epithelium, and locally distributed inflammatory cell infiltration. Based on these findings, the case was diagnosed with "Gallbladder Mucocele" (Figure 1 a, b). Informed consent was obtained from the patients.

Case 2

The second case was of a 34-year-old woman, who applied to the clinic for complaints of stomachache and nausea. Her complaints started about 1 month ago and gradually

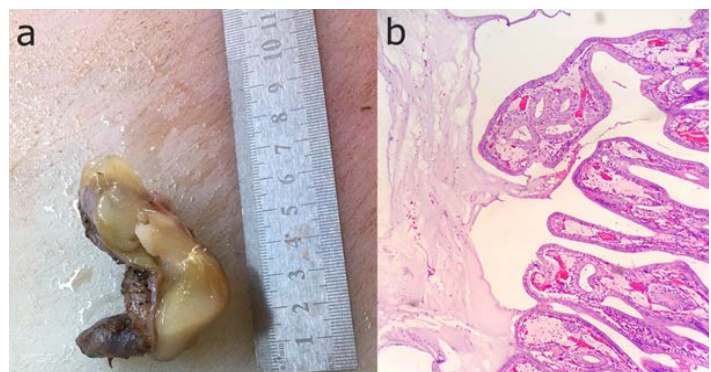


Figure 2. a: Gallbladder material with mucus-filled lumen and opaque serosa (macroscopy of the second case), **b:** mucoid material in the lumen, the surface covered with flattened epithelium, and pointing regions cholesterosis (microscopy of the second case) (H&E,x20).

increased. On abdominal examination, sensitivity was detected in the right-upper quadrant and epigastric region. However, no rebound or defense was found, traube was clear and Murphy's sign was (-). The patient was hospitalized upon the preliminary diagnosis of cholelithiasis. No abnormal results were found in the hemograms or biochemical tests. Then, laparoscopic cholecystectomy surgery was performed. The specimen taken to the pathology was examined using macroscopy; it was determined that the gallbladder had the dimension of 7x2 cm, lumen was filled with mucus, and the serosa was opaque. No stones were found. From a microscopic aspect, there was mucoid material in the lumen, the surface was coated with flattened epithelium, and there also were locally distributed inflammatory cells. Based on these findings, the case was diagnosed with "Gallbladder mucocele" (Figure 2a, b). Informed consent was obtained from the patients.

DISCUSSION

Mucocele might develop in all acute cholecystitis cases, regardless of with or without stone. Risk factors of gallbladder diseases include female gender, obesity, pregnancy, being in mid-forties, dramatic and fast weight loss, familial disposition. Other factors include estrogen hormone causing stone formation, increasing the bile cholesterol, and chronic diseases such as Diabetes Mellitus (DM), the contractility will decrease due to the neuropathic effect that might develop because of the disease and the stone formation will increase (1,9). Both of the present cases were female patients and stone formation was detected only in the first case. Patients apply to the clinics for complaints of loss of appetite, lethargy, polyuria, polydipsia, diarrhea, flatulence, pain in the right-upper quadrant, and pain in middle back or shoulder. Food intolerance (especially the greasy and spicy food), increasing gas, nausea, and vomiting can also be observed (1,4,5). Comprehensive anamnesis and physical examination are very important for the diagnosis. More specific findings in a physical examination include stomach ache, jaundice, fever, tachypnea, and tachycardia (1,4). The first case was a 26-year-old woman applying to the clinic for the complaints of pain in the right-upper quadrant, vomiting, nausea, and flatulence, whereas the second case was a 34-year-old woman applying to the clinic for the complaints of stomachache and nausea. In biochemical examination, increases can be observed in alkaline phosphatase (ALP), alanine aminotransferase (ALT), and gamma-glutamyl transpeptidase (GGT). Besides, it was also reported that blood urea concentrations, nitrogen (BUN), total bilirubin, and biliary acids might also increase. However, in chronic cholecystitis cases, these results may be within the reference range. The number of leukocytes may increase in acute cholecystitis or severe disease. Similarly, liver enzymes

may also increase. If the level of bilirubin is higher than 2, a possible common calculous biliary duct should be considered. However, even in the case of severe gallbladder disease, the laboratory values may be within the reference range. Amylase and lipase should be checked to exclude the pancreatitis (1). The laboratory results of the present cases were also found within the reference ranges. GM can be detected during the USG examination (sometimes incidentally), in histological examination after surgical excision, or during macroscopic examination. In USG, mucocele is characterized with an actinoid or fine-striped bile pattern and it differs from biliary sludge from the terms to of gravitation-based absence of bile. This model, which is generally named "kiwi fruit" gallbladder, is seen to be pathognomonic for GM (5,7). In the first case in this paper, abdominal USG was performed and it was found that the gallbladder wall was normal and there was 14-mm-diameter stone, sludge in the lumen. In the second case, no USG was performed.

On macroscopic examination in GBM; the gallbladder is enlarged, thickened, gray-white in color due to excessive mucus accumulation in the lumen. At the incision, semi-solid, thickened and white gelatinous mucus material occludes the lumen (3). From a histological perspective; GM is characterized by hyperplasia of glands, which secrete mucus in gallbladder mucosa, and abnormal mucus accumulation in gallbladder lumen (4). In the first case of this present study, it was found that the gallbladder was contained mucoid material and on microscopic examination, it was determined that there was mucoid material in the lumen, the wall was fibrotic, surface was coated with flattened epithelium. In macroscopic examination of the second case, the gallbladder had a lumen filled with mucus, and have an opaque serosa. In the microscopic aspect, mucoid material was found in the lumen and the surface was coated by flattened epithelium.

Many conditions can mimic gallbladder pathologies. Patients with acute biliary colic may experience cardiac pathologies. Among the patients having other common symptoms, peptic ulcer, irritable bowel disease, inflammatory bowel disease, gastroesophageal reflux, pulmonary emboli, and musculoskeletal disorders can be seen. Among the patients with palpable gallbladder, diagnosis of hydrops and acute cholecystitis is diagnosed with Murphy's sign and positive gallbladder USG (1). In both of present cases, sensitivity was found in the right-upper quadrant and epigastric region during palpation. No rebound or defense was observed, traube was clear, and Murphy's sign was (-).

In literature, the treatment recommended for GM is the cholecystectomy operation. Mucocele content cannot pass through the gallbladder under the effect of cholecystitis, mucocele may cause pressure necrosis, and gallbladder perforation and GM may be potentially complicated by the

secondary lethal bacterial infections (3,4,6,7,10). Laparoscopic surgery is preferred to decrease the complications and this surgical method was used in both cases in the present study. The most frequently seen reasons for perioperative death include sepsis, disseminated intravascular coagulation, surgical site separation, and pancreatitis. Important risk factors include increased ALP and GGT and increased bilirubin concentrations (3,4).

In conclusion; Gallbladder hydrops/mucocele is a diagnosis that should be considered in the differential diagnosis of right hypochondriac mass and stomach ache. For these cases, early diagnosis and appropriate treatment will prevent the development of complications.

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Sorumlu Yazar: Şirin Küçük, Usak University, Faculty of Medicine, Department of Pathology, Usak, Turkey
e-mail: ata2012irin53@yahoo.com

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