ssmc مـدينة الشـيخ شخبـوط الطـبية Sheikh Shakhbout Medical City
In partnership with بالشراكة مع MAYO CLINIC

Ivory gallbladder: Limy bile syndrome

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Introduction:

Limy bile syndrome describes a gallbladder filled with semisolid whitish material composed mainly of calcium carbonate. Churchman initially reported the syndrome in 1911. Volkmann first described the term used nowadays in 1929. The diagnosis of the condition is made by a finding of hyperintense material filling the gallbladder on plain abdominal X-ray, CT scan, or an MRI. We present a case report of a 40-year-old female with limy bile syndrome.

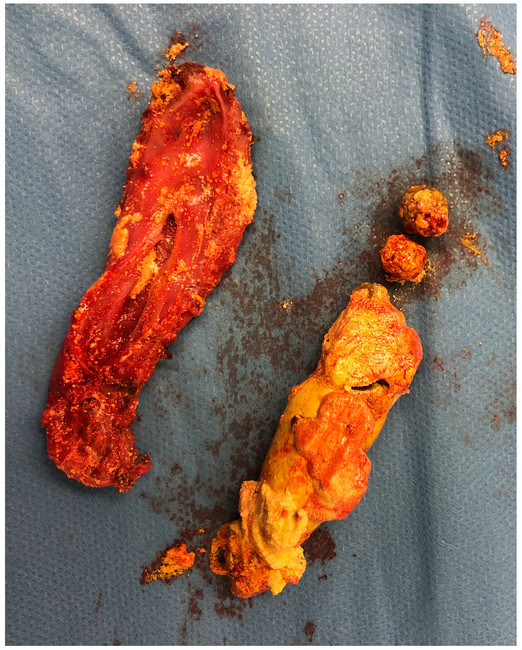


Case presentation:

A 40-year-old female complained of recurrent upper abdominal pain attacks that radiate to the back for the past month. The pain is aggravated after having a fatty meal. Attacks are associated with nausea, no changes in bowel habits, or recent weight loss reported. Physical examination and laboratory investigations, including Bilirubin level, were within normal. CT abdomen showed a hyperintense material filling the gallbladder and few gallstones, with no signs of cholecystitis. The patient underwent an uneventful laparoscopic cholecystectomy as a day procedure. Surgical pathology reported chronic cholecystitis with no malignancy.

Discussion:

The pathophysiology behind the formation of limy bile is not fully understood. Being a female older than 40 years and ICU admission considered risk factors. The syndrome was also reported in the pediatric age group. In theory, the formation of limy bile can be due to cystic duct obstruction, lower than normal bile PH, and abnormal calcium metabolism leading to a concentration of calcium in the bile forming the thick whitish semisolid material. Few articles reported limy bile syndrome in patients with hyperparathyroidism. Limy bile syndrome can be associated with gallstones or not. The thick concentrate of calcium carbonate causes cystic duct obstruction, which manifests with biliary colic symptoms. It can also lead to obstructive jaundice and pancreatitis due to common bile duct obstruction. Double localization refers to filling both the gallbladder and the biliary tree with the limy bile. Limy bile syndrome follows the same management principles of gallstones and their complications. Spontaneous disappearance of limy bile had also been reported.



Conclusion:

Limy bile syndrome is a benign finding of thickened calcium carbonate concentrate in the gallbladder. The disease pathogenesis is not fully understood. It can be diagnosed using a CT scan, X-ray, MRI but not an US. It has a minor clinical significance when it comes to clinical management. Unawareness of the condition usually leads to unnecessary further investigations and delay in management.