

Case Report

Porcelain gall bladder: a case report

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ABSTRACT

Porcelain gall bladder is a rare entity and a morphological variant of chronic cholecystitis. Dystrophic calcification along with inflammatory scarring of the wall gives the porcelain nature to the gall bladder. Patients are mostly asymptomatic and incidentally diagnosed on X-ray, ultrasound or CT abdomen. In the early stages they can be a surprise as only a histopathological diagnosis. Prophylactic cholecystectomy is recommended in view of high risk of malignancy.

Keywords: Carcinoma of gall bladder, Cholecystectomy, Porcelain gall bladder

INTRODUCTION

Porcelain gallbladder is rare condition with an incidence of 0.06 to 0.8% and is associated with chronic cholecystitis.¹ The pathogenesis of wall calcifications is not clear, though may result from inflammatory scarring of the gallbladder wall.

The incidence of carcinoma in porcelain gall bladder is between 5 % and 12 %.² Hence, Prophylactic cholecystectomy should be considered.

CASE REPORT

A 45-year-old female was admitted with complaints of intermittent episodes of right hypochondrial pain on and off for the past two months associated with vomiting. No history of fever or jaundice was reported. Her medical history included hypertension.

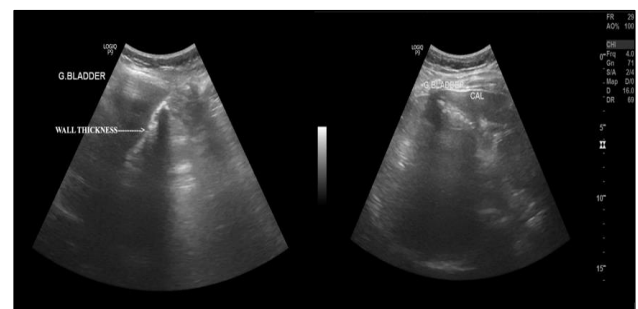


Figure 1: USG abdomen showing dense shadowing in the gall bladder.

Abdominal examination showed minimal tenderness in the right hypochondrium. Liver function test was within normal limits. Ultrasound abdomen revealed contracted gall bladder, with multiple calculi, largest measuring 6mm and wall thickness was 3 mm (Figure 1).

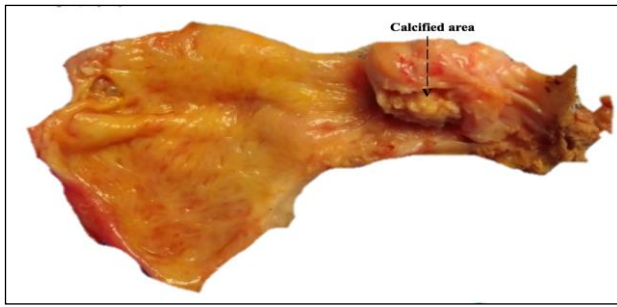


Figure 2: Gross: opened up gallbladder showing areas of calcification near fundus of gall bladder.

Patient was planned for Laparoscopic Cholecystectomy. Intraoperatively, gallbladder was bluish, contracted with multiple calculi, and focal dense nodular calcification noted in the fundus of gallbladder (Figure 2).

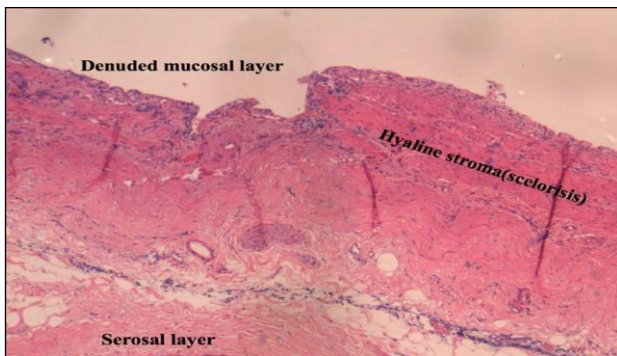


Figure 3: Histopathological examination, the cut section of the gall bladder.

Gall bladder was dissected from the fossa and sent for Histopathological examination. On gross histopathological examination, the cut section of the gall bladder showed a focal grey white exophytic lesion on the mucosal aspect with the rest of gall bladder mucosa normal.

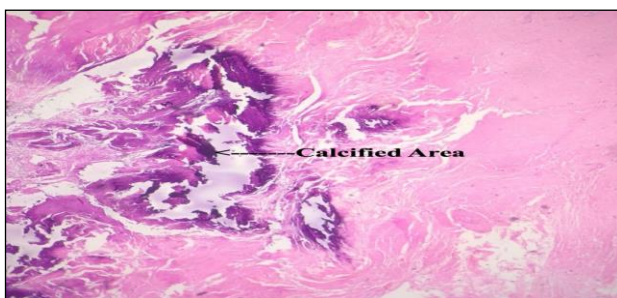


Figure 4: Histopathological examination, the cut section of the gall bladder indicating calcified area.

On microscopic examination, gall bladder showed attenuated lining with a band of hyaline stroma and large area of calcification in the fundus and few microliths. The gall bladder stones were cholesterol stones (Figure 3) (Figure 4).

DISCUSSION

Porcelain gall bladder is a terminology used to describe gall bladder wall calcification. It is a rare entity with an incidence of 0.06 to 0.8%. It is common among obese females and is a morphological variant of chronic cholecystitis. It is also associated with gallstones in around 90-95%. The incidence of carcinoma is 5 to 12%.² The pathophysiology of the disease is not clearly understood. The gallbladder wall calcification ranges can from small focal plaques contained within the mucosal layer and its glandular spaces to the entire thickness of the wall, thereby replacing the muscularis layer with calcified fibrosis and finally causing denudation of the mucosa.^{3,4} With extensive calcification, the gall bladder becomes brittle and bluish and hence the name. On microscopy, there will be widely scattered glands embedded in thin band of hyaline stroma, leaving behind granular, necrotic intraluminal debris with or without calcification. The carcinogenic stimulus are the chemicals in the stagnant bile causing degeneration and regeneration processes within the gallbladder epithelium, leading to mucosal dysplasia and malignancy.⁵ Most of the malignancy in porcelain gall bladder are diffusely infiltrating adenocarcinomas.⁶

A plain abdominal radiograph might not always pick up the calcifications due to varying extent, degree and location of the calcification. Less intense calcification of the mucosa is unlikely to be identified, while diffuse intramural calcification appear as a curvilinear or rounded opacity in the right upper quadrant.³ Ultrasonography will show hyperechoic structure with posterior acoustic shadowing and a CT will show a curvilinear or rim calcification.

As there is well documented evidence of association between porcelain gall bladder and carcinoma, hence cholecystectomy should be performed.⁷ Laparoscopic cholecystectomy is preferred over open cholecystectomy in non-complicated porcelain gall bladder. When ultrasonography detects incomplete gallbladder wall calcification, there is more chance of developing carcinoma gall bladder. The same was the scenario in our case and hence laparoscopic cholecystectomy was performed.⁸

CONCLUSION

Porcelain gall bladder is a premalignant condition and a rare entity. The early detection and management is still a challenge to the treating surgeon as the natural history and progression of a calcified gall bladder to malignancy is unknown. Hence prophylactic laparoscopic cholecystectomy is the treatment of choice in an uncomplicated porcelain gall bladder.

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