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Short Report

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A case report on porcelain gall bladder

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Abstract

Porcelain Gallbladder (PGB) originally refers to the bluish discoloration and brittle consistency of the gallbladder wall, though the terms is now broadly applied to all the forms of gallbladder calcification. Extensive calcium deposition within the gallbladder wall imparts a fragile, brittle texture and a characteristic porcelain-like appearance. Also referred to as calcified gallbladder or calcifying cholecystitis. Despite their clinical relevance, the precise etiology and pathogenesis of gallbladder wall calcifications remain poorly understood. Current evidence suggests they result from a chronic inflammatory process, although definitive mechanisms are yet to be elucidated. primary objective of this case study is to present a classic presentation of porcelain gallbladder in a 56-year-old female patient, detailing her clinical course, evaluation parameters considered and treatment approaches achieved to manage the condition.

Introduction

Calcification of gall bladder, often referred to as Porcelain Gallbladder (PGB), have garnered significant attention due to their perceived association with gallbladder carcinoma. PGB is classified into two subtypes on the extent of calcification: complete intramural calcification and selective mucosal calcification, the latter of which has been linked to an increased risk of gallbladder carcinoma [1,2]. These calcifications often occur alongside gallstones and are frequently asymptomatic, representing incidental findings on radiographic imaging. The main purpose of this case study is to present a classic presentation of porcelain gallbladder is about its clinical course diagnostic evaluation, and the treatment approach implemented.

Patient information, clinical findings, timeline

A 56 years old female patient was admitted in the hospital with the chief complaints of occasional abdominal pain for 10 years. He is K/C/O breast cancer (drugs used were not reported by patient). She denies of other co-morbidities like hypertension, diabetes mellitus. Investigating her family history reveals that her aunty (paternal) has breast cancer. Her personal history stated that the appetite, bowel & bladder are normal, regular, but her sleep was decreased due to abdominal pain.

Diagnostic assessment

The patient is in a conscious and coherent in state, with normal blood pressure with afebrile condition temperature. All her laboratory findings like haematology, biochemistry were found normal. The Plain CT scan of abdomen presents the following impression.

Plain CT scan of abdomen:

- Adenomyomatosis changes in fundus of gall bladder.
- Small cysts in segment Vo=at right lobe of liver.
- No para-aortic lymphadenopathy.
- Schmorl's node impression superior end plate of D 12 vertebra.

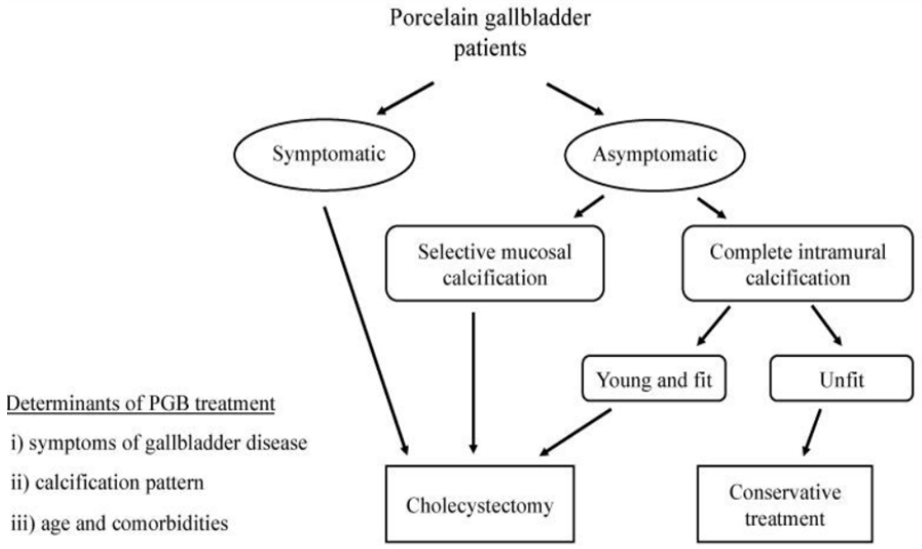

Figure 1: Clinical image.

Table 1: Post OP orders.

S. No	Trade Name	Generic Name	R.O. A	Dose	Frequency
1.	Inj. AUGMENTIN	Amoxycillin + Clavulanic Acid	IV	1.2 gm	BID 1-0-1
2.	Inj. METROGYL	Metronidazole	IV	100 ml	TID 1-1-1
3.	Inj. JUSTIN	Diclofenac	IV	75 mg	BID 1-0-1
4.	Inj. PAN	Pantoprazole	IV	40 mg	OD 1-0-0

Table 2: Discharge summary.

S. No	Trade Name	Generic Name	R.O. A	Dose	Frequency
1.	T. AUGMENTIN	Amoxycillin + Clavulanic Acid	P/O	625 mg	BD 1-0-1
2.	T. METROGYL	Metronidazole	P/O	400 mg	BD 1-0-1
3.	Cap. VELOZ- D	Domperidone + Rabeprazole	P/O	40 + 30 mg	OD 1-0-0
4.	T. CHYMORAL- AP	Aceclofenac + Paracetamol + Trypsin, Chymotrypsin	P/O	1 Tab (100 mg + 325 mg + 50000 AU)	BD 1-0-1
5.	T. ONCOVIT PLUS	Multivitamins+ Minerals	P/O	1 Tab	OD 0-1-0

Discussion

Gall bladder calcification is known as Porcelain Gall Bladder (PGB). The term originally refers to the blue discoloration and brittle consistency of the gall bladder wall, cium deposits invade gall bladder, the gall bladder wall become fragile, brittle and bluish, which results in a porcelain appearance [1,2]. The degree of calcification in the gallbladder wall varies, ranging from small focal plaques localized within the mucosal layer and glandular spaces to extensive full- thickness calcification. In severe cases, the muscularis layer is replaced by calcified fibrosis, often accompanied by sloughing of the overlying mucosa. This spectrum of histopathological changes reflects the chronicity and severity of the inflammatory process.

Institution based studies report the prevalence of porcelain gallbladder in 0.1% to 0.2% of patients with gallbladder disease, although its true prevalence remains uncertain due to limited large- scale population- based data. Porcelain gallbladder developed gallbladder carcinoma. However, more recent studies report significantly lower rates of malignancy, raising questions about the accuracy of earlier findings and the potential overestimation of this association. From a clinical perspective, the potential link between gallbladder wall calcifications and carcinoma is crucial, particularly in guiding decisions regarding prophylactic cholecystectomy.

Pathology: The exact pathogenesis of porcelain gall bladder is still unclear, but it is thought to be the final result of chronic inflammation resulting in hemorrhage, scarring and hyalinization of the gall bladder wall [3]. The main etiopathology is thought to be chronic wall irritation of gall bladder caused by gall stones and cystic duct obstruction with bile stagnation, which produces mucosal calcium carbonate precipitation [4,5].

Treatment: Patients with non malignant porcelain gall bladder treated with cholecystectomy have good prognosis.

In addition to conventional laparoscopic cholecystectomy, single- incision laparoscopic cholecystectomy also being reported to be used. Whereas the pharmacological management involves the drugs to help in managing the symptoms, so given as Symptomatic therapy [6].

Treatment given in case study: Patient under went for Laparoscopic Cholecystectomy (Frozen Sec).

Laparoscopic cholecystectomy: It is a surgical removal of gall bladder usually done by inserting a tiny video camera and special tools through several small incisions to see inside abdomen.

Conclusion

Porcelain Gallbladder, a rare condition often associated with chronic gallbladder inflammation and an increased risk of gallbladder carcinoma, underscores the importance of timely diagnosis and surgical intervention. This case highlights the successful management of a female patient through laparoscopic cholecystectomy, reaffirming its role as a safe and effective treatment modality. Early detection and proactive surgical management remain crucial in reducing potential complications and improving patient outcomes.

Ethical committee approval: Obtained approval from the Manipal hospital ethical committee. We also obtained informed consent from the patient which we have attached with this case report for the journal's reference.

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