Mirizzi Syndrome and a Preoperative MRI- A Case Report

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Mirizzi syndrome, the rare complication is more common in elderly patients, mainly affecting patients over 60 years which is often characterized by biliary stricture secondary to direct compression by chronically impacted cystic duct gallstone or chronically inflamed gallbladder. In case of imaging findings in Mirizzi syndrome, ultrasound shows biliary dilatation (>6 mm), cholelithiasis, possible thickened wall of gallbladder. For the diagnosis of Mirizzi syndrome, liver function tests and right upper quadrant ultrasound can be performed. Differential diagnosis of Mirizzi syndrome may be cholecystitis, choledocholithiasis, choledochal cyst, hepatitis, and pancreatitis. Mirizzi syndrome can be treated by performing cholecystectomy and resection or bypass of stricture via hepaticojejunostomy especially when primary reconstruction of bile duct is not practically feasible. A 62-year-old, para 5+2, menopausal woman for twelve years presented with mild colicky intermittent pain in the right upper abdomen for 12 days in the General Surgery Department of Khulna Medical College Hospital, Bangladesh. She had low grade continued fever for last 5 days and also several episode of vomiting for the same duration. On examination, she had no muscle guard but mild tenderness over the right hypochondriac region, and Murphy's sing was not positive. The patient had a history of several episode of similar attack of pain for last 2 years. Clinically the patient was diagnosed as a case of chronic calculus cholecystitis preoperatively. Per-operatively, the patient was diagnosed as a case of Mirizzi syndrome and cholecystectomy was performed. A T-tube was placed in the common bile duct. During follow up after 1 month, the patient's liver function test was found normal and the patient was fine.

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Case Report

A 62-year-old, para 5+2, menopausal woman for twelve years presented with mild colicky intermittent pain in the right upper abdomen for 12 days in the General Surgery Department of Khulna Medical College Hospital (KMCH), Bangladesh. She had low grade continued fever for last 5 days and also several episode of vomiting for the same duration. On examination, she had no muscle guard but tenderness over the right hypochondriac region, and Murphy's sing was not present. She was mildly ecteric and investigations showed that she had mild raised mixed bilirubin level (4.8 mg/dl) as well as Alkaline phosphatase level (200 U/L).

Her all other findings of liver function test were not very significant. And she had no clinical feature of obstructive jaundice such as itching. On USG of right upper quadrant of abdomen, it was found that there were multiple homogenous echogenic structures in almost normal sized gall bladder with dilated common bile duct (8 mm). The patient had a history of several episode of similar attack of pain for last 2 years. Preoperative diagnostic MRI was not done.

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Clinically the patient was diagnosed as a case of chronic calculus cholecystitis preoperatively and after performing all possible routine preoperative investigations for anesthetic fitness, she was sent to operation theatre for performing cholecystectomy. Per-operatively, the patient was diagnosed as a case of Mirizzi syndrome and cholecysto-choledocal fistula was found. Cholecystectomy was performed by Professor Dr. K. P. Sarker, Department of Surgery, KMCH. A T-tube was placed in situ. The total operation took almost 4 and half hours.

The excised gall bladder was sent for histopathology. Histopathological examination was done by Professor Dr. Abu Syed and on microscopic examination, it was found that there was infiltration of chronic inflammatory cells and proliferation of fibrous tissue in the wall of gall bladder but no malignant cell was found. On the 10th postoperative day, cholangiogram was done and the tube was removed. The patient was admitted in the hospital for 12 days and after her discharge, she came to the outdoor department for a checkup 1 month later. This time the patient's liver function test was found normal and the patient was fine.

Discussion

Mirizzi syndrome is rare, mainly affecting patients >60 years. It is often characterized by biliary stricture secondary to direct compression by chronically impacted cystic duct gallstone or chronically inflamed gallbladder. In case of imaging findings in Mirizzi syndrome, ultrasound shows biliary dilatation (>6 mm), cholelithiasis, possible thickened wall of gallbladder. For the diagnosis of Mirizzi syndrome, liver function tests and right upper quadrant ultrasound can be performed. Differential diagnosis of Mirizzi syndrome may be cholecystitis, choledocholithiasis, choledochal cyst, hepatitis, and pancreatitis. Mirizzi syndrome can be treated by performing cholecystectomy and resection or bypass of stricture via hepaticojejunostomy[1,2] especially when primary reconstruction of bile duct is not feasible. This rare complication is more common in elderly patients. It should be remembered that Mirizzi syndrome may be associated with a gallbladder cancer. Thy is why every excised gall bladder should be sent for at least histopathological examination when Mirizzi syndrome is suspected especially when the diagnosis is confirmed per-operatively with the presence of cholecysto-choledocal fistula and gall stone.[3,4]

Another very important side of this issue is a preoperative MRI in all cases of chronic calculus cholecystitis when there is a clinical suspicion of Mirizzi syndrome to detect or exclude Mirizzi syndrome before surgery and to avoid unwanted as well as preventable bile duct injury during operation and other per-operative complications.[5]

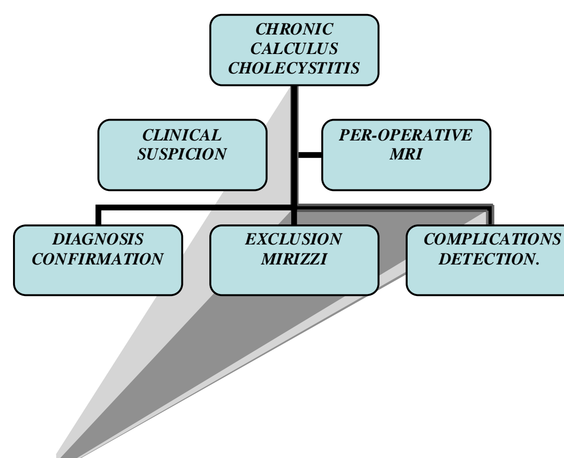

Figure 1. Justification of preoperative MRI

Key notes

When there clinical suspicion of Mirizzi syndrome

- Justification of a preoperative MRI should always be considered

- After per-operative confirmation, the excised gall bladder must be sent for histopathology (fig-1)

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