

AN APPROACH TO INTRAOPERATIVE FINDING OF MIRIZZI'S SYNDROMESatish Kumar¹, Tripurari Pandey²¹Assistant Professor, Department of General Surgery, Nalanda Medical College and Hospital, Patna.²Junior Resident, Department of General Surgery, Nalanda Medical College and Hospital, Patna.**ABSTRACT****BACKGROUND**

Currently various management approaches are described in the literature for Mirizzi's syndrome. But there are no clear guidelines for the safe management approach for this rare syndrome.

Aim of the study- How to deal with intraoperative finding of Mirizzi's syndrome and its management while doing laparoscopic cholecystectomy.

MATERIALS AND METHODS

Three hundred laparoscopic cholecystectomy were done between May 2015 to Jan 2018, out of which, nine cases of Mirizzi's syndrome were encountered during operation and they were managed, and the cases were documented.

RESULTS

The four cases were finally diagnosed as Mirizzi type IV; dissection was tiring and difficult due to unyielding and obliterated Calot's triangle due to extensive inflammation.

CONCLUSION

A preoperative diagnosis may lead to take a better step in order to prevent any bile duct injury.

KEYWORDS

Mirizzi's syndrome, laparoscopic cholecystectomy, bile duct injury.

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BACKGROUND

Mirizzi syndrome, a rare chronic complication of Gall stone disease is countered during both open and laparoscopic cholecystectomy. Familiarity of this condition, its different types, its dreaded complications of bile duct injury, and preoperative recognition and subsequent careful successful surgical management should be target and aim of surgeon. Preoperative warning from ultrasonologist helps in avoiding dreaded bile duct injury and proper planning of surgical procedure. ERCP is helpful in defining the exact anomaly.

In 1948, Pablo Louis Mirizzi, an Argentinian surgeon published a famous article that described an uncommon and benign cause of obstructive jaundice caused by direct compression from a gall stone impacted in Hartman's pouch, Gall bladder infundibulum or the cystic duct and its associated inflammatory process causing obstruction of the common hepatic duct or common bile duct.¹

MATERIALS AND METHODS

Between May 2015 to Jan 2018 nine cases of Mirizzi syndrome were encountered out of 300 cases undergoing laparoscopic cholecystectomy in a surgical unit.

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In this series all cases of cholelithiasis were diagnosed clinically and confirmed by ultrasonography. ERCP; PTCA facilities were not available and none of the cases was diagnosed as Mirizzi syndrome preoperatively. In fact, diagnosis was established during operation.

Six of the nine cases of Mirizzi syndrome had given history of jaundice and raised liver enzymes values and were operated after normalization of values and repeat ultrasound showing only gallstones and normal biliary tree, both extra and intra hepatic.

RESULTS

Four cases were finally diagnosed as Mirizzi type F; dissection was tiring and difficult due to unyielding and obliterated Calot's triangle due to extensive inflammation.

In two of the above cases, single large stone impacted at infundibulum and Hartman's pouch bulged out though the accidental injury over it during dissection. After dissection, removal of stone, wide cystic duct was dissected out and clipped. Finally, laparoscopic cholecystectomy was carried out with considerable difficulty. Bile duct escaped injury and patients fared well post operatively and had uneventful recovery.

In other three cases, Mirizzi type II syndrome was appreciated only after injury to common hepatic duct, common bile duct had occurred. All the three cases were converted to open. In two of the cases, the defect (fistulous opening) in common hepatic duct are common bile duct which was less than 1/3 rd of the circumference was closed



after providing a T-tube drain. In the other one case, closure of fistula and choledochoduodenostomy was carried out.

In one of the case where there was complete transection of common hepatic duct just above the common bile duct which was gangrenous, Roux-en-y choledochojejunostomy was carried out. Patient had uneventful post-operative recovery.

DISCUSSION

Mirizzi first described the syndrome in 1948. Its classification evolved from the work of Corlette et al (1975), Mc Sherry et al (1982); Csendus et.al (1989) and 2007- 2008 (Beltron e Csendus) added fifth type, the cholo-enteric fistula,

1975: Corlette et al defined cholecystocholedochal fistula in two types-

Type I: When fistula involved the Hartman’s pouch and bile duct.

Type II: When Gall stone dilated and eroded the cystic duct into bile duct.

1982: Mc Sherry et al classified the Mirizzi syndrome into two types based on ERCP findings.²

1989: Csendes et al modified the classification of Mc Sherry by dividing the type II cholecystobiliary fistula according to the extent of the bile duct destruction.

2008: Beltran & Csendes added type V which include the presence of a cholecystoenteric fistula together with other types of Mirizzi-

Type Va: - Without Gall bladder stone ileus

Type Vb: - With gall stone ileus³

Type	Mc Sherry	Csendes
Type I	The external compression of the bile duct by an impacted gall stone in the gall bladder infundibulum or cystic duct	Same as Mc Sherry
Type II	Cholecystobiliary fistula resulting from erosion of the bile duct wall by a gall stone.	Fistula involves less than 1/3 rd of the circumference of the bile duct.
Type III		Cholecystobiliary fistula involving up to 2/3 rd of the bile duct circumference.
Type IV		Cholecystobiliary fistula with complete destruction of the bile duct wall with the gall bladder completely fused to the bile duct forming a single structure.

Type V	2007- Csedus 2008- Beltrone Csedus added type II which includes the presence of a cholecystoenteric fistula together with any type of Mirizzi	Type Va- Without gall stone il Type Vb- With gall stone
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H U Baer- To prevent a bile duct injury advocated the following management strategy-⁴

1. Mirizzi type I syndrome- Cholecystectomy with or without common bile duct exploration.
2. Mirizzi type II syndrome- Partial cholecystectomy and cholecysto-choledochoduodenostomy.

In Mirizzi type I syndrome, Calot’s triangle is obliterated and unyielding. It is difficult to obtain a safe surgical plane in this region and injury may be inflicted to CBD, CHD and hepatic artery. In this series of three hundred cases of laparoscopic cholecystectomy, we encountered nine cases of Mirizzi syndrome. In the four cases of type I, we were able to carry out laparoscopic cholecystectomy without inflicting bile duct injury with considerable difficulty and time.⁵

In the remaining two cases, further progress with laparoscope was aborted in favour of open procedure due to

- 1) Injury to the bile duct, or 2) Fear of injuring it.

CONCLUSION

1. Laparoscopic procedure was aborted in 50% of cases due to-
 - a) Bile duct injury inflicted during dissection
 - b) No progress in laparoscopic dissection due to difficulty in Calot’s triangle.

Hence, we advocate attempting laparoscopic cholecystectomy in only type I cases with extra care to avoid bile duct injury.

2. Open procedure for Mirizzi syndrome should be the gold standard as advocated by Baer (1990)⁴; Eric C N Lac (2006)⁶

REFERENCES

- [1] Hazzan D, Golijanin D, Reissman P, et al. Combined endoscopic and surgical management of Mirizzi syndrome. *Surg Endosc* 1999;13(6):618-620.
- [2] Mcsherry CK, Ferstenberg H, Virchshup M. The Mirizzi syndrome: Suggested classification and surgical therapy. *Surg Gastroenterol* 1982;1:219-225.
- [3] Cottier DJ, Mckay C, Anderson JR. Subtotal cholecystectomy. *Br J Surg* 1991;78(11):1326-1328.
- [4] Baer HU, Matthews JB, Schweizer WP, et al. Management of the Mirizzi syndrome and the surgical implications of cholecystcholedochal fistula. *Br J Surg* 1990;77(7):743-745.
- [5] Bagia JS, North L, Hunt DR. Mirizzi syndrome: an extra hazard for laparoscopic surgery. *ANZ J Surg* 2001;71(7):394-397.
- [6] Lai ECH, Lau WY. Mirizzi syndrome: history, present and future development. *ANZ J Surg* 2006;76(4):251-257.