



CODEN [USA]: IAJPBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.3872883>Available online at: <http://www.iajps.com>

Research Article

**EXPERIENCE OF MIRIZZI SYNDROME AT THE NISHTER
HOSPITAL MULTAN**¹Dr Ibrar Ahmad, ²Dr Salim Nasir, ³Dr Faiza Mahmood¹Khyber Medical College Peshawar²Khyber Medical College Peshawar³Dalian Medical University, China

Article Received: April 2020

Accepted: May 2020

Published: June 2020

Abstract:*Aim: To assess diagnostic features, treatment strategies and postoperative complications in Mirizzi syndrome.**Study Design: A prospective observational study.**Place and duration: In the Surgical Unit I of Nishter Hospital Multan for one year duration from February 2019 to February 2020.**Patients and methods: We present our experience with 12 cases of Mirizzi syndrome. All were diagnosed by examination and underwent surgical treatment.**Results: Morbidity rate after surgery was 58.35% with the one mortality observed in this study.**Conclusion: Mirizzi syndrome is rarely diagnosed preoperatively, and ultrasound does not give any indication even with experienced hands. In long-term cholelithiasis, the rate of clinical suspicion should be high. The operation provides final surgical treatment and diagnosis.**Key words: jaundice, Mirizzi syndrome, Endoscopic retrograde cholangiopancreatography (ERCP), cholecystectomy.***Corresponding author:****Dr. Ibrar Ahmad,**

Khyber Medical College Peshawar

QR code



Please cite this article in press Ibrar Ahmad et al, *Experience Of Mirizzi Syndrome At The Nishter Hospital Multan.*, Indo Am. J. P. Sci, 2020; 07(06).

INTRODUCTION:

Mirizzi syndrome (MS) is a long-term complication of gallstones disease. It has a frequency of between 0.05% and 2.1% 1.2 and is characterized by nodules of stones in a cystic cyst or gallbladder neck. The persistent effect, together with the inflammatory response, first causes external obstruction of the bile duct and eventually connects to the bile duct, forming a cholecystic fistula. MS requires surgery. However, surgery in patients with multiple sclerosis is quite difficult for the surgeon. It is difficult to diagnose the condition preoperatively, and in 50% of cases it is diagnosed during surgery. In addition, intense adhesions and oblique anatomy due to severe

inflammation are associated with a significantly increased risk of bile duct damage and bleeding. In the past, several attempts have been made to assess the severity of MS. The validity and ultimate goal of all MS classification systems is to enable the surgeon to adapt the surgical approach to the individual situation. In 2008, Csendes *et al.* Classified Mirizzi syndrome into five groups (from I to V) to assist in the surgical treatment of patients. (Table 1) proposed a simpler classification for Beltrán Mirizzi syndrome. (Table 2) The purpose of this study is to share our experiences with patients with Mirizzi syndrome and to evaluate their treatment and complications.

Table 1:

Type I	Extrinsic compression of the common bile duct by an impacted bgall stone
Type II	Cholecystobiliary fistula secondary to an eroded gallstone involving one third of the circumference of the common bile duct
Type III	Cholecystobiliary fistula involving two thirds of the circumference of the common bile duct
Type IV	Cholecystobiliary fistula comprising the whole circumference of the common bile duct
Type V	Any type plus a cholecystoenteric fistula

Table 2:

Type of Mirizzi	Description	Treatment
I	External compression of the bile	Open cholecystectomy Open subtotal cholecystectomy
IIa	Cholecystobiliary fistula < 50% the diameter of the bile duct	Laparoscopic cholecystectomy Laparoscopic subtotal cholecystectomy Open cholecystectomy Open subtotal cholecystectomy
IIb	Cholecystobiliary fistula > 50% the diameter of the bile duct	Open subtotal cholecystectomy Biliary-enteric derivation: Side-to-side to the duodenum
IIIa	Cholecystobiliary fistula and cholecystoenteric fistula without gallstone ileus	En-Y-de-Roux to the Jejunum Simple closure of the fistula & treatment of the gallbladder according to the presence of Mirizzi I, IIa or IIb
IIIb	Cholecystobiliary fistula and cholecystoenteric	Treatment of the gallstone ileus and deferred fistula with gallstone ileus treatment of gallbladder according to the of Mirizzi I, II or IIb

METHODS:

This prospective observational study was held at the Surgical Unit I of Nishter Hospital Multan for one year duration from February 2019 to February 2020. During this period, eighty-seven patients suspected of having obstructive jaundice because of anamnesis and clinical examination reported to the service through an outpatient department. Baselines were sent with LFT and full abdominal ultrasound. Seventy-eight had obstructive jaundice due to cholelithiasis on LFT and ultrasound. ERCP was performed in 73 of them after correcting abnormal hematology and obtaining written consent. Six patients had Mirizzi syndrome during the procedure. Five patients who underwent cholecystectomy and were diagnosed with multiple sclerosis were also included in the study. Patients operated on for gallbladder cancer or other bile cancer accidentally detected during surgery were excluded from the study. Patients with Cendes type I, intra-peritoneal drain was removed on 3rd post-operative day. In patients with Cendes type 2 and 3 disease T-tube was removed on 7th day and intraperitoneal drain on 8th day. Side to side choledochoduodenostomy was performed in patient with Cendes type IV disease, after partial cholecystectomy. T-tube and intraperitoneal drain were placed during the procedure. The form was used to document the patient's baseline features, clinical features, tests, perioperative results, postoperative complications and length of hospital stay, and the final result. The SPSS statistical software version 15 was used for data analysis. The results are represented by absolute frequencies, percentages and averages.

RESULT:

A total of 11 patients had Mirizzi syndrome. Six of them were operated on after ineffective ERCP. Five patients who underwent planned cholecystectomy had Mirizzi syndrome during surgery. The age range ranged from 27 to 59 years and the average age was 50 years.

The most common signs and symptoms are shown in Table 3. Three patients who were initially treated with laparoscopic cholecystectomy and subsequently changed to the open method. Since the Beltran classification was proposed while our study was ongoing, we limited the results and discussion to the Cendes classification.

Six patients had type 1 Cendes disease. Three patients had type 2 Cendes disease, 1 patient had type 3 Cendes disease. One patient had Cendes type 4 chole-cysto-choledochal fistula. In our series, we did not meet a patient with type 5 Cendes disease. Laparoscopic or open cholecystectomy without joint biliary examination was performed in 6 patients with Cendes type 1 disease. Conversion from laparoscopic cholecystectomy to open cholecystectomy was performed in three patients with Cendes type I. Partial cholecystectomy, joint and T-tube repair was performed in three patients with type Cendes 2 and one of type Cendes 3. Partial cholecystectomy with lateral choledochoduodenostomy was selected in a patient with type 4 Cendes disease. Two patients had wound infection. One patient developed pancreatitis after surgery, he was conservatively treated and discharged one hour after surgery.

A patient with type 4 Cendes disease who underwent partial cholecystectomy and choledochoduodenostomy from side to side had bile leakage on the fourth day after surgery. He was treated conservatively, but sepsis, multi-organ failure developed and expired on the 11th day after surgery. Only one mortality was observed in this series.

Seven patients recovered without any problems. All results are summarized in Table 4.

Table 3:

Clinical Features	Frequency	Percentage
Abdominal Pain	9	82
Jaundice	6	54
Nausea / Vomiting	7	63
Fever	3	27

Table 4:

Case	Age	Sex	Diagnoses made on	Ms Type	Type of procedure	Post-complication	Outcome
1	37	F	ERCP	III	Cholecystectomy + Primary repair of fistulous tract and T-tube placement		Discharged
2	45	M	ERCP	II	Partial Cholecystectomy and T-tube placement	Wound infection	Discharged
3	57	F	Intra-operative	IV	Partial Cholecystectomy+ side to side choledochododenostomy	Biliary Leakage, Sepsis	Expired
4	51	F	ERCP	I	Lap: Cholecystectomy		Discharged
5	27	F	ERCP	II	Partial Cholecystectomy+ T-tube placement		Discharged
6	48	M	Intra-operative	II	Partial Cholecystectomy+ T-tube placement	Pancreatitis	Discharged
7	59	F	Intra-operative	I	Laparoscopic converted open cholecystectomy	Wound infection	Discharged
8	36	f	Intra operative	I	Laparoscopic converted open cholecystectomy		Discharged
9	40	F	Intraoperative	I	Laparoscopic converted open cholecystectomy		Discharged
10	44	F	ERCP	I	Open Cholecystectomy		Discharged
11	45	M	ERCP	I	Open Cholecystectomy		Discharged

DISCUSSION:

MS develops in patients with long-term symptomatic bile disease. However, the age range for applications is 22 to 95 years or more, and the average age is 48 to 61 years old. The patients represented in our study were more affected than men, and in our study of eleven patients, five had type 1 Cendes disease. Most of the patients in our study were diagnosed early and referred to our relatively young and early ward. It is difficult to make a clinical diagnosis of Mirizzi syndrome. Classically, the presence of gallstones at the interface of cystic and common hepatic ducts and the extension of the proximal billiard tree in ultrasound or computed tomography of the abdomen suggest Mirizzi syndrome. ERCP is proposed as the preferred selection method. However, the diagnosis is often suggested by the presence of dense fibrous adhesions between the gallbladder and the common hepatic duct and contracted gallbladder. In our study, five patients were not noticed, but were diagnosed intra-operatively. In a patient with gallbladder abscess, surgery revealed Mirizzi syndrome. Previous studies have shown that Mirizzi syndrome is associated with acute cholecystitis. Intraoperative cholangiography performed during surgery confirms the diagnosis and helps to identify bile anatomy. However, intraoperative cholangiography can be difficult to perform, and

continuous dissection in the Calot triangle may lead to bile duct damage. However, this method was not used due to lack of usability. For patients with suspected Mirizzi syndrome, the "fundus first" approach is recommended. The bottom of the gallbladder is open, the stone is removed, and the stone is removed from the cystic duct to the gallbladder. This approach has been adopted for most patients. Surgical options for type Cendes type 1 are partial, open or laparoscopic cholecystectomy. However, due to dense adhesions and inflammation, conditions are generally not suitable for laparoscopic surgery. The reported rate of conversion to open cholecystectomy is high. In our study, three patients with type 1 disease underwent laparoscopic cholecystectomy and became an open procedure in two patients. As the disease progresses, the anatomy changes and the situation of conventional surgery becomes difficult. Patients with Cendes type 2-4 require additional intervention in addition to partial cholecystectomy. In some studies, choledostomy is located directly on cholelithiasis, followed by cholecystectomy and posterior suture of the gallbladder flaps remaining around the T tube in patients with Cendes type 2 and 3 disease, but closure is a common bile duct 6 for most patients with type Cendes disease 2 and 3. A fistula placed in a T tube is enough. In our study, it is sufficient for three patients with type 2 Cendes

disease and one patient with type 2 Cendes disease. Three patients underwent partial cholecystectomy and were cured in a T tube and cured without complications. Hepikojunostomy Roux-en-Y is recommended for type 4 disease and choledochododenostomy is avoided in the absence of an adequately dilated common bile duct. However, a patient with type 4 Mirizzi syndrome underwent cholecystectomy with external bile duct excision and choledochododenostomy with advanced proximal bile duct dilatation. This patient had bile leakage on the third postoperative day, sepsis, multiorgan failure developed and ended on the 13th day after surgery. In our study, as in previous studies, complications and mortality rates increased with the severity of the disease.

CONCLUSION

As a result, Mirizzi syndrome remains a problem for surgeons. It is difficult to diagnose Mirizzi syndrome before surgery. Often found during surgery, intense fibrosis and accidentally indicated by distorted anatomy around the Calot triangle. Every effort should be made to determine the type of Mirizzi syndrome intraoperatively and perform the appropriate procedure according to the type of disease.

REFERENCES:

1. Abbarh, Shahem, Mostafa Seleem, Areej Al Balkhi, Abdullah Al Mtawa, Abdullah Al Khathlan, Adel Qutub, Khalid Al Sayari et al. "ERCP quality indicators: The experience of a high-volume tertiary care center in Saudi Arabia." *Arab Journal of Gastroenterology* 20, no. 1 (2019): 32-37.
2. Senra, Fátima, Lalin Navaratne, Asunción Acosta, and Alberto Martínez-Isla. "Laparoscopic management of type II Mirizzi syndrome." *Surgical Endoscopy* (2020): 1-10.
3. Othman, H., R. Jarmin, A. Azman, Z. Zuhdi, I. S. Mohammad, and A. C. Ariffin. "Single incision laparoscopic cholecystectomy at UKM medical centre: an early experience." *HPB* 21 (2019): S788-S789.
4. Hakim, H. A. N., SM Quamrul Akhter, Hashim Rabbi, Kazi Mazharul Islam, Md Tuhin Talukder, and Md Aminul Islam. "Mirizzi syndrome: diagnosis and management of a challenging biliary disease." *BIRDEM Medical Journal* 10, no. 1 (2020): 7-11.
5. Talamala, Bodaiah, K. Jagan Mohan Rao, G. Nagabhusanam, U. Bhaskar Rao, and Varun Dasari. "PRE-OPERATIVE ERCP BILE DUCT STENTING AND LAPAROSCOPIC CHOLEDOCHOPLASTY IS SAFE AND EFFECTIVE IN THE MANAGEMENT OF MIRIZZI'S SYNDROME." *Journal of Evolution of Medical and Dental Sciences* 8, no. 15 (2019): 1240-1243.
6. Han, Wei, Qing Yue, Kai Liu, Jian-ji Ke, Ling-yu Meng, and Ya-hui Liu. "Endoscopic Nasogallbladder Drainage Combined with Laparoscopic Surgery for Type I Mirizzi Syndrome with Acute Cholecystitis: A Case Series Report." *Gastroenterology Research and Practice* 2020 (2020).
7. Roesch-Dietlen, Federico, A. G. Pérez-Morales, S. Martínez-Fernández, F. Díaz-Roesch, J. A. Gómez-Delgado, and J. M. Remes-Troche. "Safety of laparoscopic subtotal cholecystectomy in acute cholecystitis. Experience in Southeast Mexico." *Revista de Gastroenterología de México (English Edition)* 84, no. 4 (2019): 461-466.
8. Nag, Hirdaya Hulas, and Phani Kumar Nekarakanti. "Laparoscopic versus open surgical management of patients with Mirizzi's syndrome: A comparative study." *Journal of minimal access surgery* (2019).
9. Koh, Ye-Xin, Pallavi Basu, Yi-Xin Liew, Jin-Yao Teo, Juinn-Huar Kam, Ser-Yee Lee, Peng-Chung Cheow et al. "Critical Appraisal of the Impact of the Systematic Adoption of Advanced Minimally Invasive Hepatobiliary and Pancreatic Surgery on the Surgical Management of Mirizzi Syndrome." *World journal of surgery* 43, no. 12 (2019): 3138-3152.
10. Tsalis, Konstantinos, Styliani Parpoudi, Dimitrios Kyziridis, Orestis Ioannidis, Natalia Antigoni Savvala, Nikolaos Antoniou, Savvas Symeonidis et al. "Klatskin tumors and Klatskin-mimicking lesions": our 22-year experience." *Revista espanola de enfermedades digestivas: organo oficial de la Sociedad Espanola de Patologia Digestiva* 111, no. 2 (2019): 121-128.
11. Alemi, Farzad, Natalie Seiser, and Subhashini Ayloo. "Gallstone Disease: Cholecystitis, Mirizzi Syndrome, Bouveret Syndrome, Gallstone Ileus." *Surgical Clinics* 99, no. 2 (2019): 231-244.
12. Zhan, Zhilin, Hongchao Han, Dongbo Zhao, Guodong Song, Jie Hua, Bin Xu, and Zhenshun Song. "Primary closure after laparoscopic common bile duct exploration is feasible for elderly patients: 5-Year experience at a single institution." *Asian journal of surgery* 43, no. 1 (2020): 110-115.
13. Badr, Ait Idir, Ait Ali Abdelmounaim, and Bounaime Ahmed. "Gallstone ileus: unusual cause of bowel obstruction. Experience of an African center and literature review." *Age (median in years)* 62: 44-74.
14. Rao, Bodaiah Talamala K. Jagan Mohan, G. Nagabhusanam, U. Bhaskar Rao, and Varun Dasari. "PRE-OPERATIVE ERCP BILE DUCT STENTING AND LAPAROSCOPIC CHOLEDOCHOPLASTY IS SAFE AND

EFFECTIVE IN THE MANAGEMENT OF
MIRIZZI'S SYNDROME."

15. Waikar, Kaustubh Vasant. "OMENTUM
PIECE FOR PREVENTION OF BILE
LEAKAGE AFTER SUBTOTAL
CHOLECYSTECTOMY." *International
Journal of Medical and Biomedical Studies* 4,
no. 1 (2020).