

Mirizzi Syndrome Type III-IV; Laparoscopic Resolution without Bilioenteric Shunt

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ABSTRACT

Mirizzi Syndrome, a benign extrinsic compression of the common hepatic duct by a stone impacted in the cystic duct or the neck of the gallbladder, is a rare pathology. The surgical management of Mirizzi Syndrome type III and IV has been based on a bilioenteric derivation. In recent years most of the surgical procedures have been replicated laparoscopically and although in this syndrome its use is still considered controversial, we propose its treatment by laparoscopy without performing a biliodigestive bypass.

Keywords: Mirizzi syndrome; Biliary tract exploration; Biliodigestive derivation; SM: Mirizzi syndrome.

INTRODUCTION

Although Kehr and Ruge described similar conditions in 1905 and 1908 respectively, it was not until 1948 when Mirizzi Syndrome was described as obstructive jaundice due to benign extrinsic compression of the common hepatic duct, caused by a stone impacted in the cystic duct or in the Hartmann's pouch. It was Pablo Luis Mirizzi (1893-1964) who invented transoperative cholangiography and studied the bile duct by this method [1,2]. Mc Sherry et al. in 1982 divided it into type I and II, of which type II was described as a cholecystocholedochal fistula [3]. Attila Csendes modified this classification into 4 types (1989) and then into 5 types (2008) dividing the type V into Va without gallstone ileus and Vb with gallstone ileus [4-6]. Other classifications have been developed, but have not been commonly accepted due to its complexity.

Mirizzi Syndrome is seen in between 0.3 to 1.4%, although in series made in developing countries its incidence has been reported that goes up to 5.7%; the age ranges from 22 to 95 years, predominating between 48 and 61 years, more frequently seen in women than in men.

With the advent of the laparoscopy, the debate was settled in whether Mirizzi syndrome type II could be managed laparoscopically.

In fact, an observational study based on a review of the PubMed and Web of Science literature, published in January 2018 [7], mention that currently MS type I is resolved by open surgery in 40% of cases. In this same document, reports of new techniques assisted by robot and with preoperative endoscopic support are mentioned. Very little has been published regarding laparoscopic resolution of cases of MS type III or IV.

In the present article and supporting one of the cases treated in our institution, we propose the resolution of minimum access through laparoscopy for cases of Mirizzi Syndrome type III and IV in which we perform a bile duct exploration, we remove the stones located in the bile duct, placement of a T-tube and subtotal cholecystectomy without the performance of a biliodigestive bypass.

CASE REPORT

It is the case of a 74-year-old patient, with no relevant pathological history, who comes to our unit due to a 2-week history of painful jaundice without fever or weightloss, her paraclinical studies showed elevation of bilirubins at the expense of the direct one, with elevated alkaline phosphatase and gamma-glutamyltransferase, transaminases raised in three times its normal value.

The ultrasound images showed a gallbladder filled with stones with thickened walls, a common bile duct of 14 mm with stones, the magnetic resonance cholangiopancreatography evidenced a SM III with several stones in the common bile duct (Figure 1). ERCP was performed with papillotomy to facilitate drainage and the same diagnosis was documented.

With this information the patient was taken to the operating room, undergoing laparoscopic surgery with 4 ports, with a surgical time of 118 minutes, after releasing the adhesions and descending the duodenum, we could evidence that the gallbladder was fused to the bile duct (Figure 2). After puncturing the bile duct with a fine needle, (Figure 3) a laparoscopic exploration of the biliary duct was performed through a wide choledochotomy and profuse lavage with a catheter, from which 5 stones of around 12 mm in diameter were extracted (Figure 4), leaving the bile duct permeable, we continued

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Figure 1. Image of the CRMN demonstrating multiple cholecystolithiasis with acute cholecystitis, choledochus 14 mm in diameter and MS III.

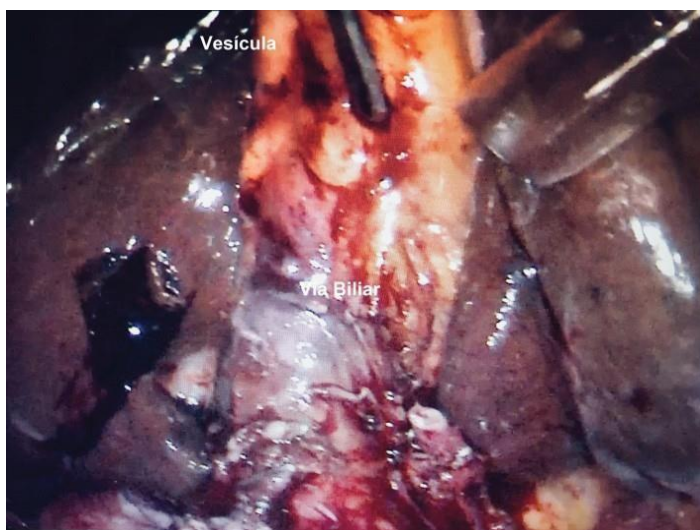


Figure 2. Exposure with traction of the gallbladder vertically, below the bile duct.



Figure 3. Puncture with a needle to verify the bile duct (classic technique).

with the placement of Kehr's T-tube (Figure 5), then we released the gallbladder fund of its bed and a cholecystotomy was performed in the fund with the extraction of 4 stones more from the interior of the gallbladder (Figures 6 and 7). Subsequently we performed a subtotal cholecystectomy by placing a laparoscopic endoloop close to what would correspond to the Hartmann's pouch (Figure 8); we placed an aspirative drainage in the surgical bed and the procedure was completed without reporting complications.

The patient's subsequent evolution was excellent, tolerating liquids orally the day after surgery, drainage through the T-tube

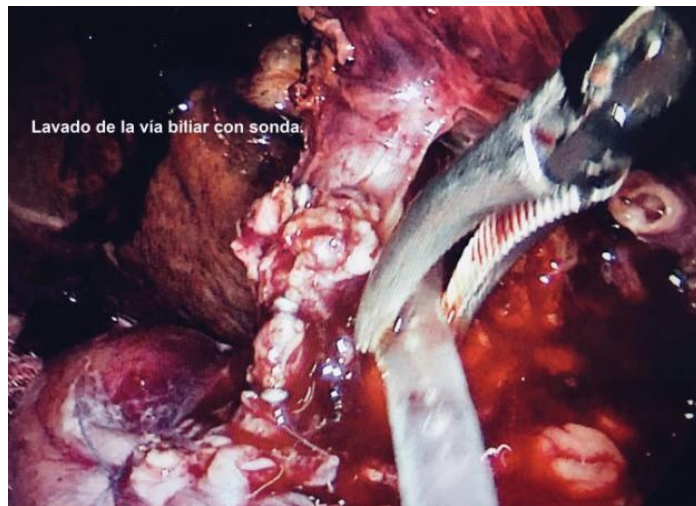


Figure 4. Profuse lavage of the bile duct.

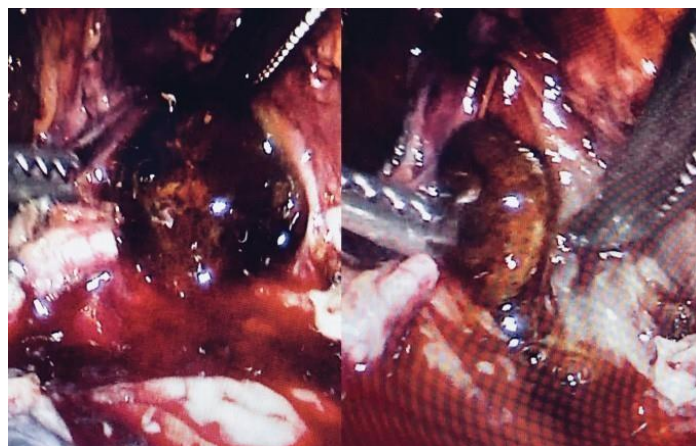


Figure 5. Extraction of the gallstones from the bile duct.

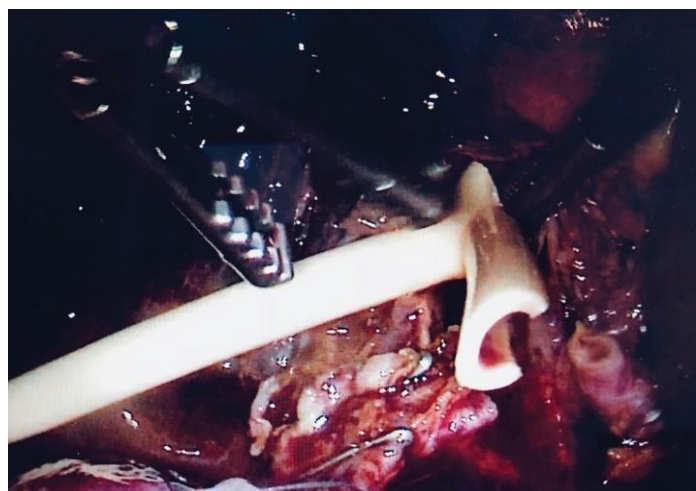


Figure 6. Placement of a T tube in the bile duct.

was acceptable and in decrescendo and aspirative drainage was removed 8 days postoperatively.

A trans-Kehr cholangiography was performed 24 days after surgery, documenting adequate passage of the contrast towards the duodenum, so the T-tube was removed without any difficulty. At follow-up for up to 4 months, the patient has not presented any symptoms or alterations, and her exams are normal.

DISCUSSION

Although several groups have described cases in which a laparoscopic

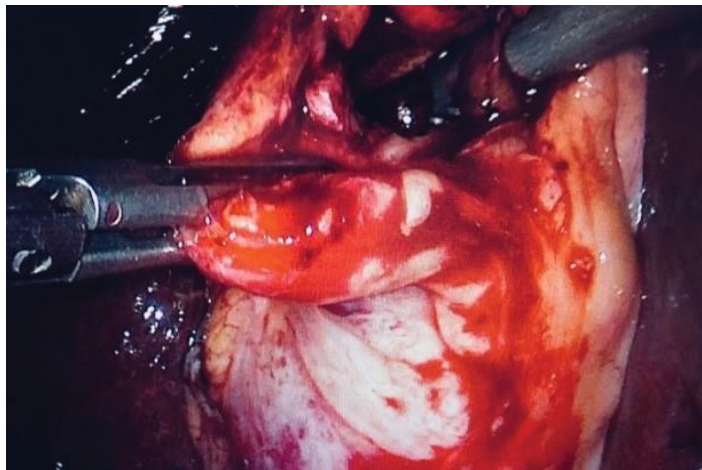


Figure 7. Cholecystotomy in the fundus and extraction of several gallstones.

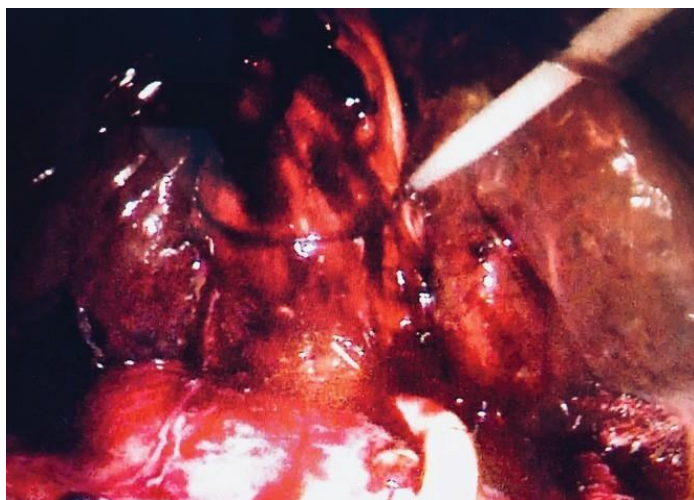


Figure 8. Placement of a laparoscopic endoloop and resection of the gallbladder fundus.

approach has been performed in patients with Mirizzi syndrome, there is still no new consensus regarding its management.

In 1992, Paul et al. reported the first successful laparoscopic surgery for an MS type I.

It has been reported that laparoscopic subtotal cholecystectomy and laparoscopic cholecystectomy initiated by the fund, "Fundus First" reduces the risk of bile duct injury and the rate of conversion to open surgery [8].

The generally accepted recommendations still give preference to open surgery, in fact, even in groups that perform a laparoscopic approach, conversion rates are recorded from 37% to 74% [9]. Some authors suggest that in cases of type I MS (92%) subtotal cholecystectomy should be performed alone, in type II cholecystectomy is performed with a gallbladder patch to restore the bile duct, type III usually requires a more complex surgery with the performance of a choledochoduodenostomy or hepaticojejunostomy in Roux-en-Y, in type IV a hepaticojejunostomy with Roux-en-Y bypass [10-12].

Laparoscopic surgery has shown complications in 16%, reoperations in 5% and mortality of 0.8% [13] it is more difficult and has a greater risk of injuring the bile duct, however in expert hands and with adequate technology it seems to be safe [14].

Unfortunately most of the related articles are Case Reports or very

small series of patients; therefore there is not an adequate level of evidence.

CONCLUSION

After exhaustively reviewing the literature, we consider that the lack of clinical trials or meta-analysis due to the low incidence of cases, added to the rapid evolution of technology, has not allowed to establish an updated treatment guidelines for each of the Mirizzi Syndrome types. It is undeniable that minimal access surgery occupies a fundamental place in surgical development and will continue to do so, that is why we suggest that it should be an expert committee who analyzes the variables and define new guidelines for the surgical management of this pathology.

As authors of this article: Mirizzi syndrome type III and IV, we report:

1. That in the present case the integrity of persons or animals is not violated.
2. That the confidentiality of data has been maintained.
3. That the corresponding informed consent has been signed

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