

A study to discuss laparoscopic cholecystectomy and choledocholithotomy after resection of the stomach and gastrectomy

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World Journal of Advanced Research and Reviews, 2023, 19(02), 311–313

Publication history: Received on 23 June 2023; revised on 31 July 2023; accepted on 02 August 2023

Article DOI: <https://doi.org/10.30574/wjarr.2023.19.2.1259>

Abstract

Due to the widespread prevalence of cholelithiasis, this disease often develops after various abdominal surgical procedures, especially after gastric resection and gastrectomy. According to a number of authors, after gastric resection, up to 10-15% of cases of calculous cholecystitis, choledocholithiasis, etc. (1-4) requiring surgical treatment are detected in the postoperative period. In such cases, surgeons sometimes hesitate whether to remove the gallbladder openly or laparoscopically. There is still no unanimous opinion among surgeons on this issue. We have therefore decided to share our experience in this area.

Keywords: Prevalence; Cholelithiasis; Gastrectomy; Postoperative period; Laparoscopy

1. Introduction

Purpose of the study. To improve the quality of treatment of patients suffering from cholelithiasis after resection of the stomach and gastrectomy.

Research tasks. Clarify the possibilities of laparoscopic surgery on the biliary tract after resection of the stomach and gastrectomy.

2. Materials and methods of research

Since 1982 we have performed 3,272 gastric resections for peptic ulcer (74%), pyloric stenosis (20%) and gastrectomy for gastric tumors (6%). Of these, 198 patients had cholecystolithiasis after the operation and another 81 patients were admitted to us with cholelithiasis after resection and gastrectomy performed in other institutions.

The most modern research methods were used for diagnosis (clinical and laboratory, ultrasound, CT, RPCH, MRI cholangiography, etc.). The interval between gastric and biliary surgery for cholelithiasis was up to 5 years in 16 patients, up to 10 years in 118 patients and more than 10 years in the rest (145 patients).

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3. Results and Discussion

Despite the steady decrease in the frequency of gastric resection for peptic ulcer disease (see table), the number of subtotal resections and especially gastrectomies for gastric tumours is steadily increasing. This is followed by an increasing number of cases of cholelithiasis, the treatment of which has not yet been definitively decided by surgeons.

In 1990-1995 this issue was controversial, even considered one of the main contraindications for laparoscopic cholecystectomy (LCHEC) after surgery on the upper levels of the abdominal cavity, especially in the republics of the former Soviet Union.

It should be emphasized that in such cases it is really best to remove the gallbladder openly or laparoscopically. However, both options have a number of advantages and disadvantages. At the time, many people thought that open cholecystectomy (OCHEC) was faster, more reliable and safer than LCHEC? And it seemed to us just the opposite, namely that LCHEC is much faster, more reliable and safer, not to mention its other advantages (atraumatic, hemostatic, etc.).

Thanks to the rapid improvement in the possibilities of laparoscopic technology (widely used Visiport, mobile - flexible dissectors, clamps, scissors, hooks, clip forceps, ENDO - GIA, Harmonic, etc.) has allowed us to dramatically expand the indications for LCHEC after resection of the stomach and gastrectomy (see table).

Table 1 Numbers of cholecystectomy after gastric resection and gastrectomy

Years resections	Numbers of and gastrectomy	Numbers* of cholelithiasis	Types of CHEC	
			O**	L***
1975 - 1990	1984	76	76	0
1991 - 2010	1100	101	34	67
2011 -2020	188	102	22	78
From 2021- Up to now	32	22	0	32
All	3304	301	132	177

*Numbers of cholelithiasis not only after our resection of the stomach or gastrectomy, but also done in other clinics; ** open CHEC, *** laparoscopic CHEC

At the same time, the conversion (11) and OCHEC (23) in the initial phase. (until 2010), if up to 50% of cases, in 2011-2020. - up to 30%, and from 2021 there will be no conversion. In 11 patients, in addition to LCHEC, laparoscopic choledolithotomy with antegrade papillosphincterotomy was performed using the papillotom developed by us (authors' certificate of invention № 1235497). In the postoperative period, only one patient after LCHEC, choledocholithotomy and choledochal drainage with a T-shaped drainage had a short-term bile leak from the control drainage of 20-30 ml for 3 days, which stopped spontaneously. No other complications or deaths were reported.

Our collective experience shows that it is now almost always possible to remove the gallbladder and stones from the choledochus laparoscopically after gastric surgery.

4. Conclusion

According to the literature, after gastric resection and gastrectomy, cholelithiasis requiring surgical treatment - cholecystectomy, choledocholithotomy, etc. - is diagnosed in up to 10-15% of cases in the postoperative period.

Before the widespread introduction of laparoscopic technologies into clinical practice, these operations were performed in an open fashion. Since 1987, with the advent of the laparoscopic cholecystectomy (LCHEC) method, it has been possible to use it in patients after gastric surgery. Rapid improvement of laparoscopic technology (wide use of Visiport, mobile - flexible dissectors, clamps, scissors, hooks, clip pliers, ENDO - GIA, Harmonic, etc.) made it possible to expand the indications for LCHEC after gastric resection and gastrectomy. This method has been successfully used in 177 patients.

At the same time, if at the beginning the conversion and OCHEC was up to 50% of cases, and now it is approaching a minimum - zero. In 11 patients, laparoscopic cholelithotomy with antegrade papillosphincterotomy was performed together with LCHEC, practically without serious complications and lethality.

Our experience shows that it is almost always possible to remove the gallbladder and stones from the choledochus laparoscopically after gastric surgery.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to disclosed.

Statement of informed consent

The consent was taken by the researchers from all the people who were involved directly or indirectly in this research.

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