Basrah Journal of Surgery

How I Do It

Bas J Surg, March, 9, 2003

MINI-CHOLECYSTECTOMY

Nezar A. Al-Mahfooz

Arab Board Certified Surgeon, Department of Surgery, Saddam Teaching Hospital, Basrah, IRAQ.

Introduction

The operative procedure in conventional and laparoscopic cholecystectomy is already every day utilized method, and the instruments used allow a reliable operations. Minicholecystectomy is a competitive procedure which began prior to the era of laparoscopic cholecystectomy, but in Iraq no standared instruments were known or developed and has been introduced by the author in early nineties by utilizing and developing the self illuminated fiberoptic retractor. The term minicholecystectomy is applied to incisions length 4-6 cm, while microlaparotomy incision is less than 4 cm, and conventional minicholecysectomy incision may reach 6-10 cm. In current interventional operations on the gall bladder and the billiary tracts, minicholecystectomy is ever more widely used in practice. Cholecystectomy done through minilaparotomy is an attractive procedure with a well established superiorities recently irrespective of the enthusiacisim for laparascopic accomplishments. Here is a realistic description of he procedure of minicholecysectomy done by the author as well as the instruments and difficulties which might be encountered and future advice.

Correspondence to:
Dr. Nezar Al-Mahfooz
Department of Surgery, Saddam Teaching Hospital, Basrah; IRAQ

Patient choice

It is safer to choose your patients on the following criteria:

- Low body mass index, i.e. lean patients (if surgeon develop good experience he can operate on more fatty patients).
- Not complicated cases (as CBD stone, empyaemi, and jaundice)
- No abnormality of billiary tracts.

Patient consent

The patient should be informed about the type and aim f minicholecystectomy, and the possibility of conversion to conventional operation at any moment the surgeon decided for the patient benefit.

Procedure

Anaesthesia: General anaesthesia with insertion of nasogastric tube to deflate the stomach if distended,

since it interferes with the operative field access.

Position: The patient is placed in supine position with a sand bag behind the upper abdomen.

Instruments: First is the fiberoptic self illuminated Fig.1, three flanged retractor with one mobile limb, as shown in figure 1. Second the use of long double joint needle holder, and other long tools, including ligature applicator and metallic clip applicator. The clip applicator is used to ligate the cystic artery and duct.

Figure 1. Fiberoptic self illuminated retractor.

Incision:

- A longitudinal 4-6 cm incision sited at upper midline nearly midway between the xiphoid and umblicus, is my preferable Fig.2.
- A transverse linea alba upper median incision with little extension to the right and left of rectus sheath is used some times.
- Pararectal incision is the third choice

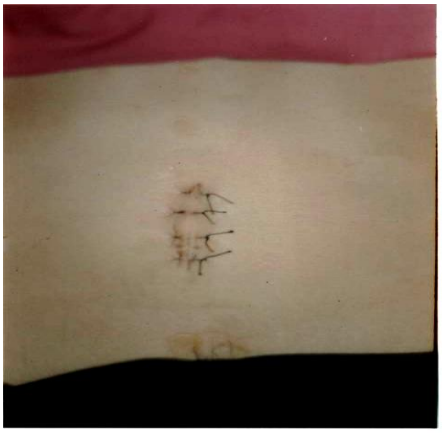


Figure 2. A longitudinal 4-6 cm incision sited at upper midline nearly midway between the xiphoid and umblicus, is my preferable.

Surgical steps:

- Peritoneal cavity is entered.
- Anaesthetist is instructed to insert a nasogastric tube.
- With two fingers, the gall bladder is palpated and trivial adhesions released.
- Fast survey to the duodenum, stomach, pancreas and nearby structures.
- The three blades fiber-optic illuminated retractor is inserted now, its right flange usually hide the fundus of gall bladder intentionally.
- A longitudinal 4-6 cm incision sited at upper midline nearly midway between the xiphoid and umblicus, is my preferable.
- A transverse linea alba upper median incision with little extension to the right and left of rectus sheath is used some times.
- Pararectal incision is the third choice
- The retractor axis then turned right angle to allow peeling of the gall bladder.
- Haemostasis usually secured with electrocuatery.
- Further look to CBD is done.
- At any step if difficulty is faced, or need of CBD exploration found necessary, conversion to conven-tional chole CC is not hesitated (Fig.3)

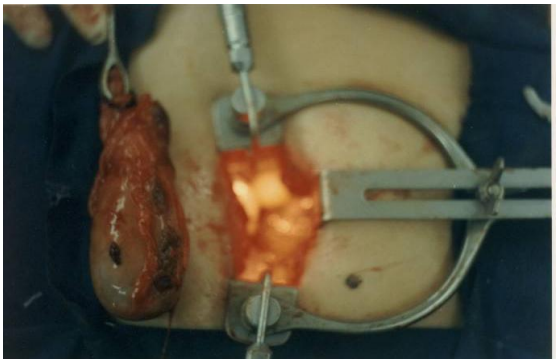


Figure 3. The end of minichole, compare the gallbladder with the wound diameter.

- Knowing that the percentage of conversion is about 3.4% in a total number of 234 mini chole MC
- Drains not used only exceptionally.
- Total operative time ranged between 25-120 minutes, average was 43.
- The retractor axis then turned right angle to allow peeling of the gall bladder.
- Haemostasis with diathermy.
- Further look to CBD is done.
- At any step if difficulty is faced, or need of CBD exploration found necessary, conversion to conventional chole CC is not hesitated.

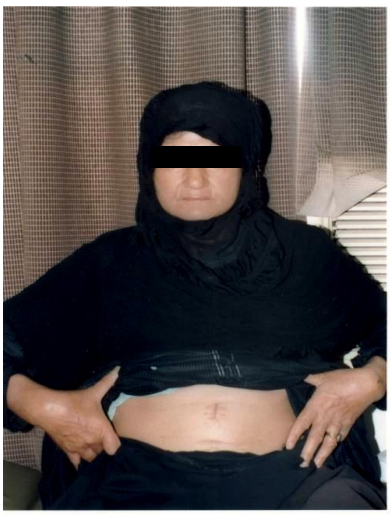
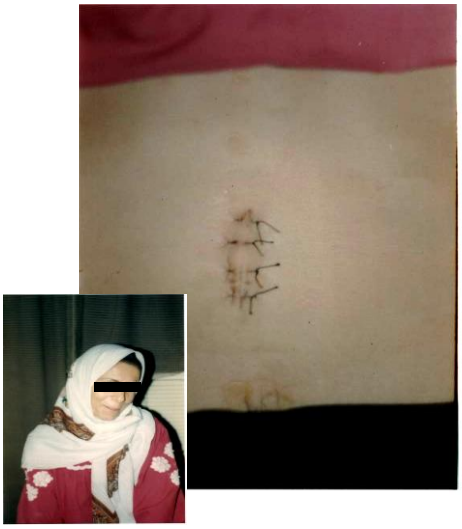
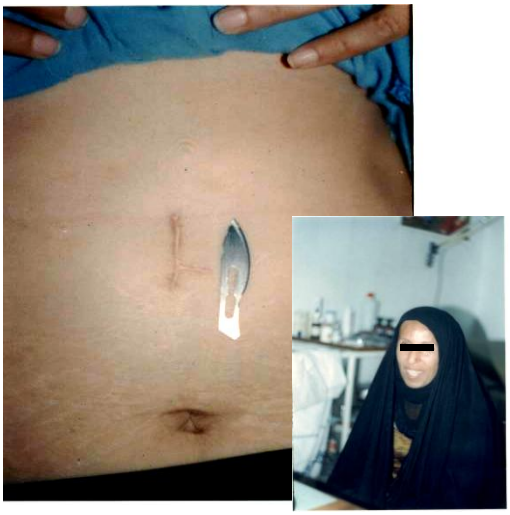


Figure 4. Mini-Chole10 days Post-op3.5 cm incision



Mini-Chole 3rd post op day, 4 cm incision



Mini-Chole 1 year later, 3.5 cm length

Minicholecystectomy in references

- Microlaparotomy cholecystectomy (MLC) is analternative for minimal invasive surgical interventions of the biliary tract. In Hungary over 7000 operations were performed in 21 surgical departments as at December 31, 1998 .
- From the functional anatomical point of view the upper midline mini-cholecystectomy incision is advan-tageous because it is situated above the Calot's triangle and reduced postoperative pain.
- A horizontal incision of the skin and two successive vertical incisions, sparing the rectus muscle, is an approach which reduces incidence of incisional hernia, decrease pain with optimal cosmetic appearance.
- A set of instruments devised by CAN company was used in performing minicholecystectomy , it proved adequate and operation was

performed through 3-4 cm incision, no complications were encountered.

- In MC as in LC surgeons should have practiced a low threshold for converting to open technique if the gallbladder or CBD anatomy is unclear, and when bleeding or leakage of bile can not be controlled satisfactorily- *Sabiston 99*

Comments

As every new surgical procedure requires a " learning curve", I found the procedure useful for all non complicated cholecystectomies, and difficulties were solved within time, and still the surgeon needs low threshold of conversion to conventional surgery in the proper time.

References

1. Rozsos I. Cholecystectomy performed by macro- and modern minilaparotomy. Orv Hetil 1995; **136(9)**: 475-81.
2. Rozsos I. Micro and modern minilaparotomy in biliary tract surgery. Orv Hetil 1996; **137(141)**: 2243-8.
3. Deredzhian K H. Mini-cholecystectomy the technical aspects. Khirurgiia Sfiia 1998; **51(4)**: 41-3.
4. Ferenczy I, Orban P, Vincza K. Technical difficulties of microlaparotomy for cholecystectomy. Magy Seb 2000; **53(4)**: 143-5.
5. Belli G, Romano G, D'Agostino A, Iannelli A. Minilaparotomy with rectus muscle sparing: a personal technique for cholecystectomy. Khirurgiia Mosk 1996; **17(5)**: 283-4.
6. Shulutko AM, Danivilo AI, Markovo ZS, Kornev LV. Minilaparotomy in surgical treatment of calculus cholecystitis. G Chir 1997; **(1)**: 36-7.