

The outcome of laparoscopic surgery for acute cholecystitis , single surgeon experience

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Abstract

The laparoscopic cholecystectomy now regarded as standard operation for a acute cholecystitis . This prospective study done by single surgeon in the hospitals of Basra city .

Sixty patients with acute cholecystitis between December 2010 to December 2016 admitted to the hospitals and prepared for laparoscopic cholecystectomy include Forty eight female and twelve male patients. Only 4 cases (6.6%) converted to open cholecystectomy . The most common complications are shoulder pain (6.6%) and wound infection in 5% .

In conclusion , the laparoscopic cholecystectomy is good optional treatment for acute cholecystitis in good surgical experience and availability of laparoscopic instruments .

Introduction

The laparoscopic cholecystectomy is minimal invasive method used for removal the gall bladder by the use of laparoscopy ¹ . It used alternative to the open cholecystectomy in the treatment of gall bladder diseases because of less morbidity, good outcome result and better cosmetic outcome ². The treatment of inflamed gall bladder was by cholecystectomy whether by laparotomy in early phase or after a few weeks of conservative period to decrease the inflammation ³. Also the laparoscopic cholecystectomy is used in the treatment of inflamed gall bladder . The laparoscopic cholecystectomy for acute cholecystitis was noticed in early 1980 ⁴. It was initially regarded as a contraindication for acute cholecystitis⁵ . as there is controversy at the beginning for laparoscopic procedure ⁶ . in the management of inflamed gall bladder because in acute phase , there is more edema & distorted anatomy which leads to difficulty in doing the operation and many complications encountered, that is why the use of medical therapy for several weeks till the

edema subside then the patients is subjected to surgery⁷. With the time and evolution of laparoscopic training & advances in instrumental equipments, the laparoscopic cholecystectomy for acute cholecystitis now is regarded as a stranded operation⁸⁹. for acute cholecystitis instead of open cholecystectomy while in the chronic cholecystitis, the laparoscopic approach is the standard procedure¹⁰.

The aim of this study is to evaluate the outcome of laparoscopic surgery in the management of acute cholecystitis

Patients & methods

This is a prospective study done between December 2010 till December 2016 in Al-Sadir Teaching Hospital & private hospitals in Basrah. The study was done on patients with acute cholecystitis based on clinical findings such as upper abdominal pain with tenderness and fever about 37.5 c° also investigations which includes elevated WBC count above $10 \times 10^9/L$, ultrasound examination which reveals the thickness of the gall bladder wall above 5mm, edema of the wall, distension of the gall bladder, presence of stones & peri cholecystic fluid collection. Chronic cholecystitis was excluded from this study. The patients were admitted to the hospital, and prepared for surgery with antibiotic cover & intravenous fluid therapy. Investigations were also completed. All patients were subjected to general anesthesia in supine position and laparoscopic cholecystectomy was done for all the patients. In the cases where there was difficulty in finishing the laparoscopic operation, the procedure was converted to open cholecystectomy to complete the surgery. Postoperatively, all patients were kept on intravenous fluid, analgesia such as tramadol ampule once daily and antibiotic cover in form of metronidazole vial (500mg) three times per day & ceftriaxone vial (1g) three times daily for few days postoperatively.

Results

This study included sixty patients with acute cholecystitis. They were 48 females (age ranged between 20-60 years) & 12 males (age ranged between 16-70 years) as shown in table 1.

Table 1 : show the sociodemographic characters of the patients

Table 1 socio- demographic characters of the patients

		Females		Males		Total No
		No	%	No	%	
Gender		48	80	12	20	60
Patient age /year	11-20	—	0	1	1.6	60
	21-30	8	13.3	2	3.3	
	31-40	15	25	4	6.6	
	41-50	14	23.3	3	5	
	51-60	11	18.3	1	1.6	
	61-70	—	0	1	1.6	

Four cases where converted to open method (6.6%) 3 females and 1 male.

The causes for conversion were difficulty in dissection & identification of the field anatomy in three cases while in one female case, the conversion was due to bleeding as shown in table II . Fisher exact test applied to show any significant relashon .

The post operative stay in the hospital ranged between 1-3 days in the laparoscopic cholecystectomy while open cholecystectomy it ranged between 3-5 days .

Table II shows the causes for acute cholecystitis cases conversion from laparoscopic to open method which indicates that difficulty in dissection and obscured anatomy are the major causes.

Table II : Causes of conversion

Causes of conversion	Males		Females		F	P
	No	%	No	%		
difficulty in dissection & obscured anatomy	1	1.66%	2	3.33%	0.494	Not significant
Bleeding from cystic artery	-	-	1	1.66%	1	Not significant

Table III demonstrates that the most common complications following laparoscopic cholecystectomy were shoulder pain (6.6%) followed by wound infection in 5% of the cases.

Table III : Complications of laparoscopic cholecystectomy for acute cholecystitis

	No.	%
Shoulder pain	4	6.6
Wound infection	3	5
Gall bladder perforation	2	3.3
Bile collection	1	1.6

Discussion

In the early advances of laparoscopic surgery , the acute cholecystitis was considered as a relative contraindication for laparoscopic cholecystectomy⁵.but with the time , the laparoscopy treatment was feasible and safe to be done for acute cholecystitis . The laparoscopic cholecystectomy still associated with high morbidity and high rate for conversion to the open cholecystectomy⁶.The time of laparoscopy in the acute inflammation still debate .The benefit of the laparoscopic cholecystectomy in the treatment of the acute cholecystitis include easy removal of gall bladder , less pain , less analgesia need , less post operative hospital stay , decrease the risk of conservative medical therapy failure with good cosmetic results¹¹.. The laparoscopic cholecystectomy for acute cholecystitis is at the present time considered as a regular method for treatment¹² considering the safety of the procedure¹³ as in the early stage of acute cholecystitis , there is edema surrounding the gall bladder that made plane easy for dissection than that in the late period of acute cholecystitis where edema replaced by fibrous adhesion which makes dissection more difficult laparoscopically ¹⁴ .

In meta-analysis study done in Japan regard early laparoscopic surgery for acute cholecystitis with index admission show short hospitalization period and less morbidity with similar conversion and complications rate in comparison with interval operations that done after few weeks of The conservative treatment to the inflamed gall bladder¹⁵. The conversion of laparoscopic cholecystectomy to open cholecystectomy should not be regarded as a failure of the operation but considered as a safety method or modality of treatment¹⁵. Although in this study, the conversion percentage was 6.6% due to difficulties in dissection of Calot's triangle in acute cholecystitis that occur in 5% of the cases, but this goes with other studies where the conversion rate was 6.5-35%^{16 17}.

The complications showed in table III regarding laparoscopic cholecystectomy are comparable with the complications rate and type of other studies^{1 18}. The morbidity rate, the need for analgesia and the hospital stay of laparoscopic cholecystectomy cases was less than that of open cholecystectomy cases with greater patient satisfaction and early return to the work in comparison to the other studies that done on the open cholecystectomy⁶.

Conclusion

The laparoscopic cholecystectomy is a good choice for removal of acutely inflamed gall bladder but it depends on the experience of the surgeon and availability of instrument.

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