

Pain and Duration Scoring Between Open and Laparoscopic Cholecystectomy

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Abstract: *Gastro-intestinal surgery has undergone a revolution in the recent years by the introduction of laparoscopic techniques. The concept of “keyhole surgery” created an immediate disparity between the potential of the new technique and training of surgeons to perform it. Now modern surgical methods are aimed at giving cure along with minimal invasive techniques with patient in mind, safety never being compromised. Cholelithiasis, which continues to be one of the most common digestive disorders encountered, was traditionally being dealt by conventional or open cholecystectomy. With the introduction of laparoscopic cholecystectomy, the surgical community witnessed a revolution in basic ideology and the importance of minimal access surgery has suddenly impacted. Laparoscopic cholecystectomy (LC) has become so safe and easy that it can be performed with much ease and safety because of better magnification. Although LC has shown clear benefits in terms of shortened hospital stay, less morbidity, mortality, a quicker return to work and with cosmetic advantage, many questions regarding this procedure remain unanswered, particularly relative to the gold standard procedure of open cholecystectomy.*

Keywords: gall stones, laparoscopic cholecystectomy, pain scoring, duration, open

1. Introduction

- Gastro-intestinal surgery has undergone a revolution in the recent years by the introduction of laparoscopic techniques.
- The concept of “keyhole surgery” created an immediate disparity between the potential of the new technique and training of surgeons to perform it.
- Now modern surgical methods are aimed at giving cure along with minimal invasive techniques with patient in mind, safety never being compromised.
- Cholelithiasis, which continues to be one of the most common digestive disorders encountered, was traditionally being dealt by conventional or open cholecystectomy.
- With the introduction of laparoscopic cholecystectomy, the surgical community witnessed a revolution in basic ideology and the importance of minimal access surgery has suddenly impacted.
- Laparoscopic cholecystectomy (LC) has become so safe and easy that it can be performed with much ease and safety because of better magnification.
- Although LC has shown clear benefits in terms of shortened hospital stay, less morbidity, mortality, a quicker return to work and with cosmetic advantage, many questions regarding this procedure remain unanswered, particularly relative to the gold standard procedure of open cholecystectomy.

2. Aims and Objective

The aim of this study is to compare pain and duration scoring between open and laparoscopic cholecystectomy.

- Pain score and duration (post operatively).
- Post-operative Recovery.

3. Methodology

- The study subjects consisted of 40 patients with a diagnosis of calculous cholecystitis that underwent cholecystectomy at YENEPOYA Institute of Medical Sciences, Mangalore from September 2014 to december2015.
- The patients were interviewed for detailed clinical history according to a definite proforma. All the patients were examined and underwent routine blood investigations with LFT wherever necessary. Abdominal USG was performed in all the cases.

Inclusion Criteria

- Patients with cholelithiasis proven by USG with at least one attack of upper abdominal pain and considered fit for elective cholecystectomy were included in the study.

Exclusion Criteria

The patients with following conditions were excluded from the study:

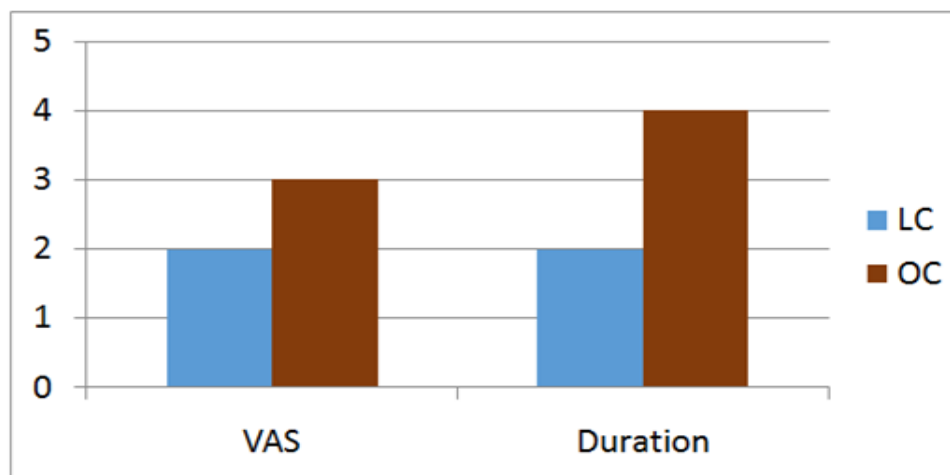
- History or investigations suggesting CBD stones.
- History of prior abdominal surgery.
- Patient's age above 70 years.
- Written informed consent was obtained from all the patients before their enrolment in the study. The study protocol was approved by the local ethical committee of this hospital
- Pain score VAS (Visual Analogue Score)
- Grade 0 - No Pain.
- Grade 1-Mild Pain.
- Grade 2-Discomforting.
- Grade 3-Distressing.
- Grade 4- Severe Pain.
- Grade 5- Excruciating.

Pain score(VAS)	LC(n=20)	Percentage%	OC(n=20)	Percentage%
Grade 0	0	0%	0	0%
Grade 1	7	35%	1	5%
Grade 2	9	45%	11	55%
Grade 3	4	20%	7	35%
Grade 4	0	0%	1	5%
Grade 5	0	0%	0	0%
Median value	Grade 2 (0-3)		Grade3(1-5)	
Mean \pm S.D	1.85 \pm 0.74		2.4 \pm 0.68	
				P Value < 0.02

Table showing Pain Score and Duration (postoperatively):

Duration of pain in Days				
< 4	17	85%	6	30%
4 – 6	3	15%	13	65%
> 6			1	5%
Total	20	100%	20	100%
Median value	2(1-6)		4(2-10)	
Mean \pm S.D	1.85 \pm 0.74		2.4 \pm 0.68	
				P Value < 0.001

The VAS was median Grade2 in LC group as compared to median Grade3 in OC group $P < 0.02$. The median duration of pain in days is less in LC group 2(1 - 6) days and OC group 4(2 - 10) days $P < 0.001$.The difference in Pain Score and Duration is statistically significant.



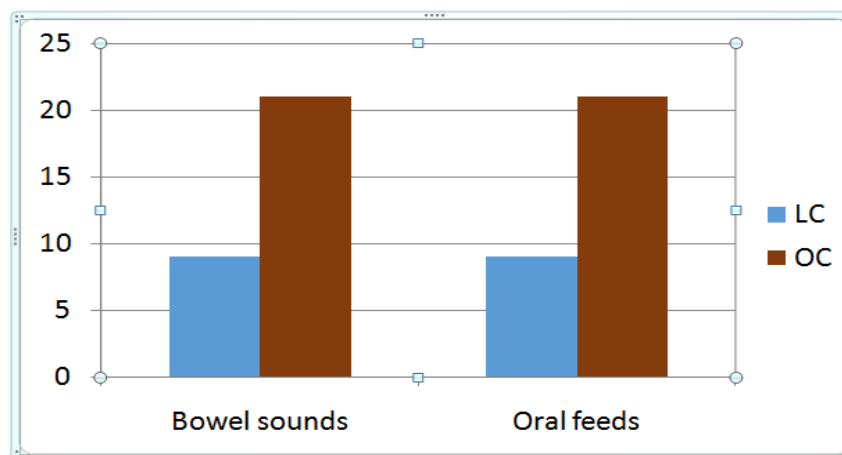
Pain score and duration in days

Time taken to return of bowel sounds (hrs)	LC (n=20)	Percentage	OC (n=20)	Percentage
< 6	02	10 %	00	00 %
6 - 12	18	90 %	02	10 %
12 - 24	00	00 %	16	80 %
24 - 36	00		02	10 %
Median Range(in hours)	9 (6-12)		21 (12-30)	P Value < 0.001

Post Operative Recovery

Time to resumptions of oral feeds				
< 6	02	10 %	00	00 %
6 - 12	10	50 %	02	10 %
12 - 24	08	40 %	14	70 %
24 - 36	00	00 %	04	20 %
Total	20	100%	20	100%
Median Range (in hours)	9 (6-18)		21 (12-36)	P Value < 0.05 (Chi Square test)

Post operative recovery is early in LC compared to OC with, Median range of 9(6-12) and 21(12-36) hours respectively. The difference was statistically significant.



Post operative recovery

Duration of hospital stay in days	LC(n=20)	Percentage	OC(n=20)	Percentage
1-3	9	45 %	0	00 %
4-6	8	40 %	9	45 %
>7	3	15 %	11	55 %
Total	20	100%	20	100%
Median range in (Days)	4(2-7)		7(4-10)	
Mean \pm S.D	4.3 \pm 1.59		6.75 \pm 1.77	P Value < 0.001 (Chi Square test)

4. Conclusion

Laparoscopic cholecystectomy is a considerable advancement in the treatment of gall bladder disease.

The advantages of laparoscopic cholecystectomy are several:

- Technically, the dissection of the cystic artery and cystic duct is very precise and bleeding is easily controlled with less peri operative blood loss in LC.
- The degree of post operative pain and its duration is less in LC.
- LC patients tolerate oral feeds earlier and are mobilized faster.
- The duration of hospital stay is less and patients can be discharged quickly from the hospital in LC
- Patients of LC group can resume their work earlier.
- LC is associated with less chances of wound infection and there is no risk of wound dehiscence.
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- The cosmetic advantage in LC is obvious.
- The duration of hospital stay was significantly longer for OC group than for LC group.

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