Original Article

New Indian Journal of Surgery
Volume 7 Number 1, January - April 2016
DOI: https://dx.doi.org/10.21088/nijs.0976.4747.7116.16

Laparoscopic Cholecystectomy: A Clinical Study

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Abstract

Introduction: laparoscopic cholecystectomy is considered as the gold standard treatment for cholecystectomy, which is mainly due to improved results of laparoscopic surgery compared to the open surgery, and its cosmetic benefits. *Methodology*: This study consisted of 30 patients treated withcholecystectomy in Medical College Hospital. They were subjected for thorough history, physical examination and available investigations required for study and particular note was made. *Results*: the mean operation time for males undergoing laparoscopic cholecystectomy was 90 minutes (range -75 180mm*)* as compared to females undergoing laparoscopic cholecystectomy, the mean operation time was 95 minutes. *Conclusion*: Laparoscopic cholecystectomy is the method of choice for treatment of symptomatic gallstone disease.

Keywords: Gall Stones; Laparoscopic Cholecystectomy; Complications.

Introduction

The most remarkable surgical innovation of this century has been the use of the laparoscope in general surgery. Ever since Kurt Semm demonstrated that complex procedures could be performed through miniscule ports for access, the treatment of gallstone too has been revolutionized [1].

The indications for laparoscopic cholecystectomy are the same as that of open cholecystectomy. The advantages to the patient in terms of pain, stay in the hospital, recovery time, cost and cosmetic results are considerable Since its introduction in France laparoscopic cholecystectomy has become the treatment of choice for symptomatic cholelithiasis Laparoscopic cholecystectomy has revolutionised the treatment of gallbladder disease and is now the gold standard for the treatment of gallstones and the commonest operation performed laparoscopically worldwide [2,3] and has rapidly expanded worldwide over a very short span of time.

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Methodology

This was a prospective study. This study consisted of 30 patients treated withcholecystectomy in Medical College Hospital. They were subjected for thorough history, physical examination and available investigations required for study and particular note was made on

1. Presence or absence of common bile duct stones, documented by history, radiological and biochemical investigations
2. Fitness for surgery, particularly with respect to cardiopulmonary status

A dose of antibiotics (usually a cephalosporin with metronidazole) was given 4 hours before surgery. A nasogastric tube and Foleys catheter were inserted routinely Injectable antibiotics and analgesics were given for 2-3 days postoperatively.

Results

A total number of 30 patients were offered laparoscopic cholecystectomy, of these 12 were males and 18 females. The average age of males undergoing laparoscopic cholecystectomy was 45.92yrs (range

34-65yrs) and In case of females taken up for laparoscopic cholecystectomy the average age was 47.44yrs (range: 20-65yrs,)

The patients who were offered laparoscopic cholecystectomy has been symptomatic for a mean duration of 16.8 months (range 1-84 months). A majority of the patients were suffering from 6 months to 2 years, 66% (n=20).

In the group of patients offered laparoscopic cholecystectomy 93.33 (n=28) belonged to ASA (American Society of Anesthesiologists classification anesthesia risk) Grade II and III.

The commonest associated, medical illness encountered were Hypertension (n=10, 20%), diabetes mellitus (n=5, 10%) and IHD (n=2, 6%).

There were 5(10%) clinically obese patients who were offered laparoscopic cholecystectomy. There was laboratory evidence of total bilirubin elevation beyond 2mg/dl in 5 patients. Serum alkaline phosphatase elevation beyond our laboratory normal of 280 IU/dl was seen in none, n=0 of cases offered laparoscopic cholecystectomy

The pre-operative ultrasound examination revealed a normal thin walled gall bladder in 66% (n=20) of those cases offered laparoscopic cholecystectomy

Apparently difficult gall bladders (Thick walled / contracted) were seen in 35% (n=10) of those offered laparoscopic surgery. The pre-operative ultrasound also revealed a dilated CBD in 0% patients the mean operation time for males undergoing laparoscopic cholecystectomy was 90 minutes (range -75 180mm) as compared to females undergoing laparoscopic cholecystectomy, the mean operation time was 95 minutes (range 60-120).

The operative field was adhesion free or had only minimal omental adhesions 80% (n=24) of the cases taken up for Laparoscopic surgery.

A normal thin walled gallbladder was found in 15 (50%) laparoscopic cholecystectomy

A contracted or thick walled gallbladder was seen in 5 (10%) of cases taken up laparoscopically.

A normal caliber cystic duct (easily occluded by a medium large ligaclip) was seen in 73.4% (n=28) cases taken up for laparoscopic cholecystectomy.

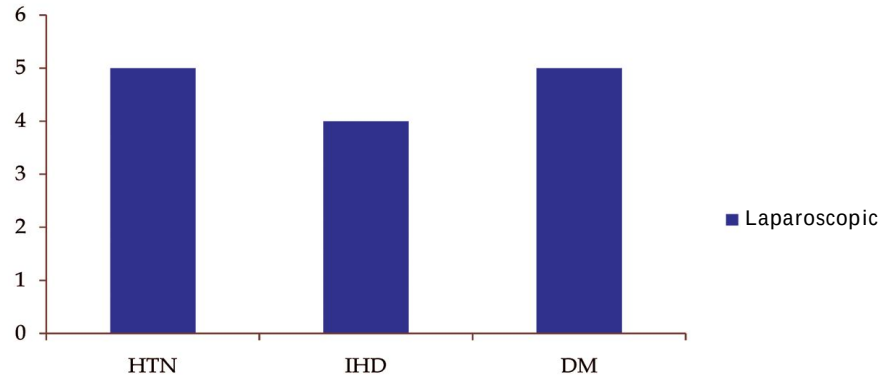

Fig. 1: Associated diseases

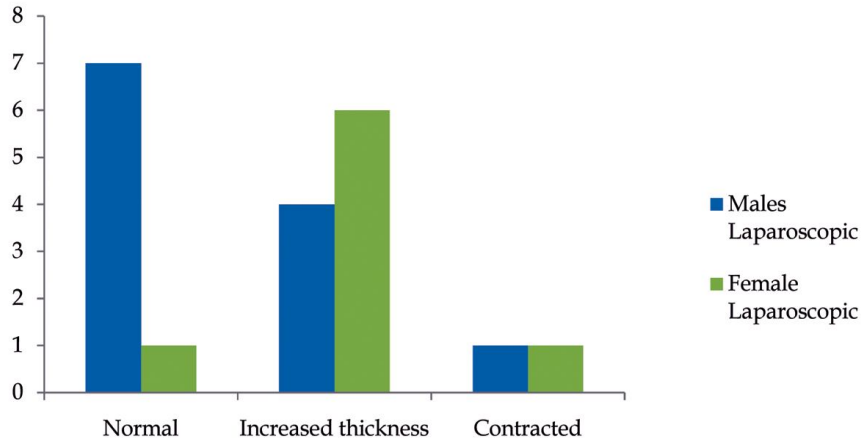

Fig. 2: USG findings of gall bladder

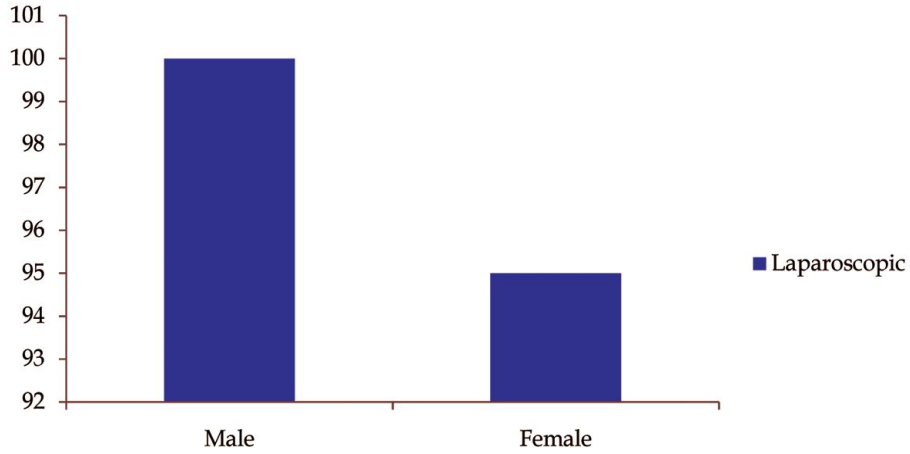

Fig. 3: Average operative time(in minutes)

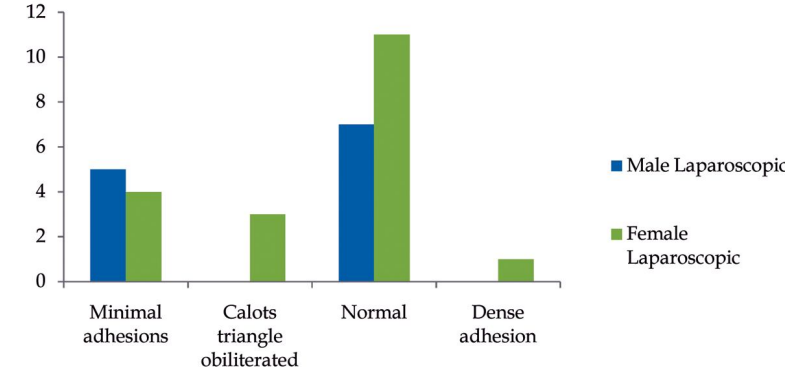

Fig. 4: Operative findings

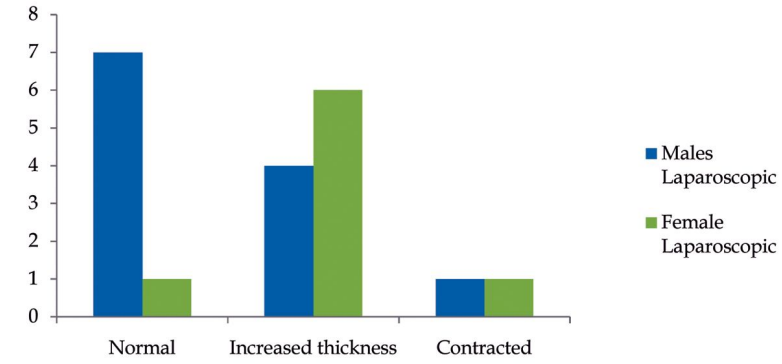

Fig. 5: Operative findings of gall bladder

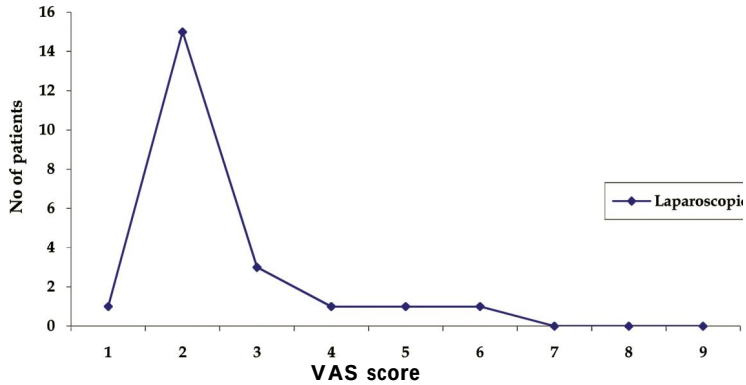

Fig. 6: Assessment of post operative pain VAS score

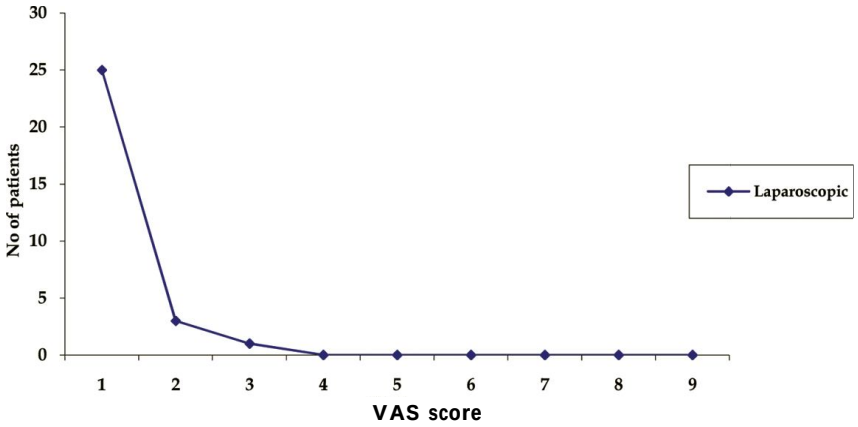

Fig. 7: Pain assessment on discharge by VAS score

Discussion

Symptomatic gall stones account for a sizeable proportion of surgeries performed in our surgical practice in India. It often affects people in their economically and socially productive age. Until recently the only surgical option available for permanent alleviation of symptoms was open cholecystectomy. But, this too was far from perfect in the sense that it lead to the creation of the large surgical wound with its attendant morbidity and involved a long convalescence. The non surgical therapies have proved ineffective by having severe restrict ions on their applicability. Therefore, when laparoscopic cholecystectomy burst upon the seen it was hailed that as the panacea for patients with gall stones diseases. It cured the patients and so with minimal disability.

The average operation time for a laparoscopic cholecystectomy was 90 minutes (75-180). The mean operation time as reported in literature varies from 39-118 minutes [4,5,6].

There was no significant difference in the operation time in between males and females offered surgery.

On the first post operative day patients undergoing laparoscopic cholecystectomy experienced lesser pain as quantified by the visual analogue scale (VAS) and the verbal response score (VRS).

The maximum number of patients scored their pain as II/III on the VAS and grade I, II pain on the VRS respectively (66.66% for VAS, 90% for VRS respectively).

Injectable analgesics however could be withdrawn by second postoperative day in 90% of cases undergoing laparoscopic cholecystectomy. However, many patients did require analgesics for continued pain relief. We did not use narcotic analgesics for post operative analgesia.

As far as quantification of pain goes, we had results similar to other authors with lower mean values for VAS [7].

But there was significant difference as regarding use of analgesics, all our patient required injectable NAIDs till first post operative day where as 21-31 % of patients in some studies [8,9] did not require analgesics.

By the time of discharge 93.3% of patient undergoing laparoscopic cholecystectomy scored the pain experienced as IV or less on the VAS .This follows a frequent observation of ours that the pain experienced by a patient undergoing laparoscopic cholecystectomy quickly tapers off from the day of operation.

The most common problem seen in the post operative period was nausea and vomiting with almost 69% patients suffering from this, oral feeds could however be tolerated as early as the night of the surgery in patients undergoing laparoscopic cholecystectomy. Anti-emetics were not required by 47% (n=15) of patients undergoing laparoscopic surgery on the day of operation and could be stopped by the first postoperative. The intravenous drip could be discontinued in 80% of the patients undergoing laparoscopic cholecystectomy on first postoperative day.. This was comparable to world literature where early oral intake has been well documented the only difference being the higher prevalence of nausea we observed [10,11].

The mean postoperative stay after laparoscopic surgery was 4.47 days. The average postoperative stay reported in literature ranged from 0.98 -3.0 days for laparoscopic cholecystectomy [12,13,14]. Many of our patients who underwent laparoscopic cholecystectomy were fit to be discharged on the first post operative day but we purposely kept them in the ward for 72 hours since there are no domiciliary nursing facilities available in our community. This

might have been the reason that no patients required readmission for any complication that could have been detected in the post operative period.

Conclusion

Laparoscopic cholecystectomy proved to be superior to open cholecystectomy as regards the postoperative morbidity in terms of pain, requirement for analgesia, early recovery from post-operative ileus, earlier discharge from hospital and less wound infection rate

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