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Experience of laparoscopic appendicectomy versus open appendicectomy in Babylon

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Abstract--To compare laparoscopic appendectomies versus open and to evaluate the level of efficacy of both surgical approach. The predictor variables explored in this study were: age, gender, ultrasound procedure, operative time, post operative stay, number of hours required for the return of bowel function, use of narcotic analgesia, any postoperative complications and regaining of routine activities: A total of 119 patients clinical records were reviewed, of these 22 patients had had laparoscopic appendectomies and 97 had open appendectomies. All the operations had done by a general surgeons in Babylon. The mean operative time in minutes was relatively shorter for open appendectomy (48) compared to laparoscopic appendectomy (84). The average time for the return of bowel movement was remarkable less for laparoscopic appendectomy (12) hours versus open appendectomy (24) hours. The mean post operative stay in hours was relatively shorter for laparoscopic appendectomy (18) compared to open appendectomy (30). Hence our study found that laparoscopic appendectomy is a safe and effective procedure for the removal of appendix over open appendectomy.

Keyword--laparoscopic appendectomies, open appendectomy, bowel function.

Introduction

approximately 7% of the population develop appendicitis in their life time, with peak incidence between the age 10 to 30 years, thus making appendectomy the most frequently performed abdominal operation(1). Recently, several authors

proposed that the new technique of laparoscopic appendectomy should be the preferred treatment for acute appendicitis. However, unlike laparoscopic cholecystectomy, laparoscopic appendectomy has not yet gained popularity (2). Laparoscopic appendectomy has emerged as a safe procedure, and its potential advantages of shorter hospital stay, early mobilization, early return of bowel function, acceptable complication rate along with the recent enthusiasm of minimally invasive surgery, has led some authors to advocate this approach as the procedure of choice for uncomplicated appendicitis(4-5).

the open technique is faster and less expensive than the completely laparoscopic method. Literature search has revealed that laparoscopic appendectomy was associated with less post-operative pain and a smaller requirement of postoperative narcotic analgesia. In a study done by Ortega et al, a linear pain score was recorded in 135 patients blinded to the procedure of operation by special dressing. This pain score was much less in cases of laparoscopic appendectomy(6). There have been numerous retrospective and uncontrolled series of laparoscopic appendectomy as well as 16 prospective randomized studies published to date. Although most of these have concluded that the laparoscopic technique is as good as open appendectomy, there has been considerable controversy as to whether laparoscopic appendectomy is superior or not(7 -8). This study was conducted to compare the outcomes of open appendectomy versus laparoscopic appendectomy in patients with suspected acute appendicitis in the surgical ward of our institution, moreover, to evaluate the effectiveness and safety of laparoscopic appendectomy and conventional open appendectomy in the treatment of acute appendicitis

Patients and Methods

All patients' (10_40 years of age)' charts with laparoscopic and open appendectomy in Babylon (al Hilla teaching hospital and al Hayat private hospital), between 1st november 2011 to 1st november 2012, has been reviewed retrospectively. The variables reviewed included; age, sex, operation time, time taken for bowel function to restore, use of analgesia, post-operative stay and post-operative complications. The procedure was performed both as an elective case for missed and interval appendicitis. Complete data of all patients who were admitted through the emergency department for surgery, with no known comorbidities, and no previous lower abdominal surgeries were included for chart review. Patients who were identified to be at high risk for general anaesthesia, had a past history of lower abdominal surgeries, or pre-existing diseases were excluded from this study.

Results

In this stud 80% as compared to open appendectomy only 15% (because most surgeons prefer to do abdominal ultrasound before laparoscopic appendectomy to decrease the possibility of missed associated pathology. The mean number of minutes for operative time was higher in laparoscopic appendectomy as compared to open (84 vs 48). The mean number of hours for bowel function to return was higher for open appendectomy as compared to laparoscopic appendectomy. Moreover, the mean numbers of hours of post-operative stay was greater for open

appendectomy patients in comparison to laparoscopic appendectomy patients, the cost associated with laparoscopic appendectomy is higher than open appendectomy (750000 iraqi dinars vs. 400000, this cost in the private hospital only, in the teaching hospital the cost was same in both operations), there was no conversion of laparoscopic to open appendectomy in our study.

Characteristics n(%)
Lap Appendectomy V/S Open Appendectomy

Table 1
Descriptive characteristics of Open appendectomy vs. Lap appendectomy done in surgical unit

Age in years (mean)	
(1)	27.9(16.7-39.1)
(2)	23.9(10.6-37.2)
Gender(1)	
Male	16 of 22(72%)
Female	6 of 22 (28%)
Gender(2)	
Male	63 of 97(65%)
Female	34 of 97(35%)
Abdominal ultrasound	
(1)	18 of 22 (80%)
(2)	15 of 97 (15%)
Bowel function return in hours (mean)	
(1)	12(1-24 hours)
(2)	24(12-36 hours)
Post operative stay in hours (mean)	
(1)	18
(2)	30
Time of operation in minutes (mean)	
(1)	84 (48-120)
(2)	48 (30-66)
Use of narcotic analgesia (number of doses)	
(1)	1 (0-2)
(2)	2 (0-4)

Discussion

Few studies have been conducted to date in middle east and in Iraq on the comparison between open appendectomy versus laparoscopic appendectomy. Laparoscopic appendectomy was found to be safer than open appendectomy in our review. Multiple studies have shown laparoscopic appendectomy to be safe for acute appendicitis, but there have been conflicting reports as to whether it is superior from a cost perspective (9 -11). The findings of this study on the effectiveness of laparoscopic appendectomy over open appendectomy are consistent with previous research. laparoscopic appendectomy was associated with a shorter hospital stay, decreased wound infection rate, decreased analgesic requirement, earlier return to normal activity and better cosmetic results. Therefore, laparoscopic appendectomy can be safely recommended for acute appendicitis unless laparoscopy itself is contraindicated (1).

Our study showed that laparoscopic appendectomy takes longer to perform with approximately a total of 84 minutes (as average) taken in all surgeries done, however; the recovery time is shorter than open appendectomy. A more comfortable post operative course, and lower wound infection rate has been proven. Our findings were consistent with previous study (12) which claimed, that this procedure has less postoperative pain and return to work in less than one week (3). The hospital costs of laparoscopic appendectomy are higher; however, laparoscopic appendectomy offers significant savings to patients due to quick recovery time. We utilized the already present data for our study. However, the limitations are the small sample size (10) which we were not able to see some of the potential variables like number of hours to bowel return, post-op stay and late post.

Conclusion

This comparative study, chart review showed that laparoscopic appendectomy is effective procedure and a safe as compared to open appendectomy. earlier resumption of normal bowel movement, It decreases the length of postoperative hospital stay, and less narcotic analgesia administration. Although the cost associated with laparoscopic appendectomy is higher than open appendectomy, the recovery and outcomes are more pronounced.

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