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Research Article

ASSESSMENT OF LAPAROSCOPIC APPENDECTOMY IN PATIENTS OF COMPLICATED APPENDICITIS IN TERTIARY CARE TEACHING HOSPITAL OF CENTRAL INDIA

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ABSTRACT

Objective: Appendicitis is the most common abdominal surgical emergency in the world which may lead to complications such as appendicular abscess or mass, gangrene, perforation, and peritonitis. The present research aimed to evaluate the well-being and the effectiveness of laparoscopy for managing complicated appendicitis.

Methods: The present study was carried out on 50 patients at tertiary care institution of Chhattisgarh in Central India for 2 year. This study is including patients of complicated appendicitis undergoing laparoscopic management. Parameters studied included Age, Gender, WBC count, wound infection, and hospital stay.

Results: There was increase of total leukocytic count in most of the patients; mean WBCs were 12.71±5.37. 33 that patients had pus free IPF collection and perforated appendicitis (PA), 11 patients had turbid free IPF collection with AA (highly inflamed appendix), two case was mucocele of the appendix, two cases of appendicular abscess (3.3%), and two cases of gangrenous appendix.

Conclusion: Management of complicated appendicitis laparoscopically is practicable, secure, and can present a small occurrence of infectious impediments, fewer post-operative pain, fast revival, and improved cosmesis on the cost of extended operating time than Open Appendectomy.

Keywords: Complicated appendicitis, Hospital stay, Laparoscopy, Wound infection.

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INTRODUCTION

Appendicitis is the most common abdominal surgical emergency in the world which may lead to complications such as appendicular abscess or mass, gangrene, perforation, and peritonitis [1]. About 7% of the residents developed appendicitis in their existence, with crest occurrence amid the ages of 10 and 30 years, thus building appendectomy the mainly often executed abdominal operation. Complicated appendicitis has been linked with a important danger of post-operative septic difficulties, with wound infections and intra-abdominal abscess formation [2]. The possibility and strength of the laparoscopic approach have reason important argument mostly due to premature information of the augmented occurrence of intra-abdominal abscess rates on the other hand, quite a few further fresh trials have establish a statistically significant lessening in premature post-operative complications with the laparoscopic approach to the end that it has really been future as the technique of option for complicated appendicitis [3-12].

A great number of researches evaluates laparoscopic versus open appendectomy (OA) were carry out seeing as the primary details of laparoscopic appendectomy (LA) by Semm in 1983 [13-18], Consequently, complicated appendicitis is improved supervised by LA [19]. Therefore, it is rational that LA could have compensation above OA in patients with complicated appendicitis since LA is linked with fewer wound surface area out to contagion and possible assists straight apparition throughout peritoneal lavage [20].

Perforated appendicitis (PA) happens in 20%–30% of acute appendicitis (AA) patients and is linked with greatly superior threats of post-operative infectious complications present study carry out to assess the protection and the effectiveness of laparoscopy for managing complicated appendicitis [2,21].

METHODS

The present study was conducted on 50 patients at tertiary care institute of Chhattisgarh in Central India for 2 year. This study is including patients of complicated appendicitis undergoing laparoscopic management. Investigations were done for all the patients and they include CBC, prothrombin time, and concentration and renal functions tests and abdominal ultrasonography. Patients with non-complicated appendicitis, prior account of open abdominal or pelvic operations and with medical situation that prohibited them from pneumoperitoneum were expelled from the research. Camera was bringing in during the 10 mm periumbilical port. This port was positioned by a Hassan method or direct cut down technique. A 5 mm port brought in the right lower quadrant under vision. A non-traumatic grasper was set up through this port to recognize the appendix. At this point, the small intestine is raise out of the pelvis revealing the inflamed appendix. Careful manipulation was necessary devoid of straight grasping it to avoid bowel injury [4,22]. Peritoneal toilet and aspiration of pus after abdominal exposure. A Maryland grasper was introduced, and a window is created in the mesentery to separate the appendicular artery. Three clips are applied to the isolated vessel. The vessel was separated amid clips leaving two clips on the patient side. Authors, then, use diathermy to divide the rest of the mesentery. The appendix was afterward ligated and separated at its base with end loops or transected by stapler. Authors evaluate the appendix stump and alienated vessel to ensure hemostasis. Retrieval of the appendix in an Endobag [4,22].

RESULTS

The study included 50 patients of adult male and female. Mean age of the studied patients was 32.47±12.10 years with range between 17 and 66 years. Out of 50 patients, 39 patients were female and 11 patients were male. It was noticed that there was increase of total leukocytic count (leukocytosis) in most of the patients; mean WBCs were 12.71±5.37 (Table 1). All 50 patients underwent diagnostic laparoscopy at first and intraoperative finding was as following. Thirty-three patients had pus free IPF collection and PA, 11 patients had turbid free IPF collection with AA (highly inflamed appendix), two case was mucocele of the appendix, two cases of appendicular abscess (3.3%), and two cases of gangrenous appendix. According to conversion to open surgery, only five cases (10%) were converted to open surgery that these cases were appendicular abscess, gangrenous appendix, and mucocele of the appendix. Forty-five cases were successfully preceded to LA.

Post-operative follow-up of 50 patients revealed only two cases of post-operative complication in form of wound infection, while the other 48 cases had not any post-operative complication. Post-operative hospital stay of all patients was measured and revealed that seven cases were stayed 1 day at the hospital, while 39 of the cases were discharged within 2 days from the admission and four of the cases were stared 3–4 days at the hospital these cases which had prolonged that hospital stay was the cases which converted to open surgery. Mean±SD of post-operative hospital stay was 2.12±0.78 days (Table 2).

DISCUSSION

Complicated appendicitis is linked with a superior hazard of post-operative complications and has been measured a qualified contraindication for laparoscopy [23-25]. Nevertheless, this thought has been faced in various researches which compared surgical results of LA for complicated appendicitis [22,26,27]. Even though a few research's comparing LA and OA have revealed similarity of the two events as observe morbidity and mortality [28], most researches accounted important compensation in the laparoscopic group, such as, reduced post-operative pain, quick revival, little hospital reside [29-31], accessibility of inspection of the whole peritoneal cavity, superior debridement, sufficient irrigation and lavage under straight apparition, improved cosmesis, fewer immunologic cooperation, and less chest impediments [32]. A little clinical research on LA for complicated appendicitis have essentially lift a few severe questions. Establishment of pneumoperitoneum in septic surroundings has been concerned; though, the consequence of pneumoperitoneum on animal models concerning bacterial translocation has had contentious outcome [33,34].

All 50 patients underwent diagnostic laparoscopy at first and intraoperative finding, which were as following. Thirty-three patients had pus free IPF collection and PA, 11 patients had turbid free IPF collection with AA (highly inflamed appendix), two case was mucocele of the appendix, two cases of appendicular abscess (3.3%), and two cases of gangrenous appendix. According to conversion to open surgery, only five cases (10%) were converted to open surgery that these cases were appendicular abscess, gangrenous appendix and mucocele of the appendix. Forty-five cases were successfully preceded to LA. Piskun *et al*., data on 52 patients with PA 10 (19%) had converted appendectomies [35]. According to So *et al*., there were 85 patients analyzed with PA in this research undergo laparoscopy 40 patients (47%) undergo alteration to the open process after laparoscopy [36]. These findings for LA corroborate the considerably inferior rate of wound healing complications only two cases. According to Lin *et al*., 15.2% patients developed wound infections one patient developed intra-abdominal bleeding [37]. In Katsuno *et al*., wound infection was found in 6.4% of patients in the LA [38]. In Ansari *et al*., out of 103 patients who were successfully operated laparoscopically, 21 patients developed minor complications like fever in 11 (10.67%) patients, 5 (4.85%) patients had post-operative ileus that postponed their begin of oral ingestion and 5 (4.85%) patients had port site infection [33]. These data show a significant reduction in post-operative hospital stay and conversion rate after LA for complicated appendicitis 2.00±0.59 days. These results were analogous to numerous earlier studies [2,4,21,22].

Table 1: Operative results according to the procedure performed

Parameter	Result
Age (years)	32.47±12.10
Male/female	22%/78%
WBC	12.71±5.37
Conversion rate	10%
Hospital stays	2.00±0.59
Wound infection	3.3%

Table 2: Duration of hospital stay among study participants

Hospital stays (days)	No.	%
1	7	14
2	39	78
3–4	4	8
Mean±SD		2.12±0.78

CONCLUSION

Management of complicated appendicitis laparoscopically is possible, secure, and can present a little occurrence of infectious complications, fewer post-operative pain, quick revival, and improved cosmesis on the cost of longer operating time than OA. We advocate that LA should be the first option for all patients by complicated appendicitis. It resulted in shorter hospital stay and lower conversion rate.

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CONFLICTS OF INTEREST

Nil.

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ETHICAL APPROVAL

The study has been approved by ethical committee of our institution.

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