ORIGINAL ARTICLE

Compare the Outcomes of Early Exploration versus Conventional Approach in Patients with Appendicular Mass

AHMAD HASSAN KHAN[1], KHALID MAHMOOD[2], ALLAH NAWAZ[3], RAZA FARRUKH[4], MUHAMMAD ARSHAD[5], AMIR NAZIR[6]

[1]Associate Professor, [2,3]Assistant Professors, Department of Surgery
[4]Assistant Professor of Anaesthesia
[5]Associate Professor of Paediatrics
[6]Associate Professor of Medicine
Sargodha Medical College, University of Sargodha
Correspondence to Dr. Ahmad Hassan Khan E-mail: docahmadhassan@hotmail.com Cell 0320-2211611

ABSTRACT

Aim: To compare the outcomes of early exploration versus conservative appendectomy in patients presented with appendicular mass.
Study design: Randomized controlled trail.
Place & duration of study: Dept of Surgery, DHQ Teaching Hospital, Sargodha from 01-08-2019 to 31-7-2020
Methodology: One hundred and eighty patients of both genders with ages 15 to 60 years presented with appendicular mass were enrolled. After taking written consent detailed demographics including age, sex, BMI, sign and symptoms and complete blood count were recorded. All the patients were equally divided in to two groups. Group I contains 90 patients and treated with early exploration, group II with 90 patients and treated with conventional appendectomy. Outcomes were compared between both groups.
Results: No significant (P>0.05) difference was observed between both groups regarding age, sex and body mass index. Mean operative time was significantly shorter 65.26±14.58 minute in group I as compared to group II 86.44±20.36 minutes (p-value <0.001). Complications were more in group II, 18(20%) as compared to Group I 13(14.44%). Hospital stay was significantly shorter in group I 2.58±1.24 days as compared to group II 5.72±2.66 days (P<0.001). Patient's satisfaction was more in group I as compared to group II patients.
Conclusion: Early exploration is safe and effective as compared to interval appendectomy in patients with appendicular mass.
Keywords: Appendicular mass; early exploration, interval appendectomy, wound infection,

INTRODUCTION

Acute appendicitis is one of the most frequent acute surgical pathologies. The inflammation in acute appendicitis may sometimes be fixed by the patient's own defense mechanisms, by the formation of an inflammatory mass (an appendiceal phlegmon) or a circumscribed abscess (an appendiceal abscess) often presenting as a palpable mass days following the onset of symptoms. This complication occurs in 2-7% of all cases of appendicitis[1,2].

Management of appendiceal mass and abscess is either operative or conservative. More evidence is needed to identify which method is superior[1]. Immediate appendectomy may be technically demanding because of the distorted anatomy and difficulties in closing the appendiceal stump due to the inflamed tissues. According to the aforementioned, the operation could be finished with colonic resections (ileocecectomy or right hemicolectomy)[2,3,4]. Conservative management with interval appendectomy has traditionally remained the gold standard management. The need for interval appendectomy after a successful nonsurgical treatment has recently been questioned as the risk of recurrence is relatively small[5-7]. After successful nonsurgical treatment of an appendiceal mass, true diagnosis is uncertain in some cases and underlying diagnosis of cancer or Crohn's disease may be delayed[8,9]. The studies favouring immediate appendicectomy claim an early recovery and complete cure during the same admission.

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MATERIALS AND METHODS

This randomized control trial study was conducted at Department of Surgery, DHQ Teaching Hospital, Sargodha from 1st August 2019 to 31st July 2020. A total of 180 patients with appendicular mass were divided in two equal groups. Patients detailed demographics including age, sex, BMI, sign and symptoms and complete blood count were recorded. Patients with ileo-caecal tuberculosis, or carcinoid tumour who underwent appendectomy and those who not agreed were excluded. All the patients were equally divided in to two groups. Group I contains 90 patients and treated with early exploration, group II with 90 patients and treated with conventional appendectomy. Outcomes in term of operative time, wound infection, wound dehiscence, hospital stay and patients satisfaction were compared between both groups. Data was analyzed by SPSS 24.

RESULTS

Mean age of the patients in group I was 24.08±10.6 years with mean BMI 21.24±3.6kg/m^2 and the mean age in group II was 24.78±6.22 with mean BMI 22.14±3.6kg/m^2. One hundred and twenty six patients had laparoscopic appendectomy while rest of the 54 patients had pen appendectomy (Table 1).

Table 1: Baseline detailed demographics of both groups

Variables	Group I	Group II
Mean age (years)	24.08±10.6	24.78±6.22
Mean BMI (kg/m^2)	21.24±3.6	22.14±3.6
Type of appendectomy		
Laparoscopic	126	70%
Open	54	30%

Table 2: Postop outcomes and frequency of satisfaction between groups

Variable	Group I	Group II	P value
Satisfied	86(95.5%)	78(86.7%)	<0.05
Not satisfied	4(4.5%)	12(13.3%)	<0.05
Post-operative outcomes			
Hospital stay	2.58±1.24	5.72±2.66	<0.05
Operative time	65.26±14.58	86.44±20.36	<0.05

Table 3: Outcomes of complications between both groups

Complication	Group I	Group II	P value
Wound sepsis	3	8	11 (6.11%)
Partial wound dehiscence	1	3	4 (2.22%)
Residual abscess	-	1	1 (0.5%)
Bleeding	8	12	20 (11.11%)
Burst abdomen	4	7	11 (6.1%)
Respiratory tract infection	2	5	7 (3.9%)
Fecal fistula	0	1	1 (0.5%)

Ninety six percent were satisfied and 4% were not in group I as compared to group II 87% patients were satisfied and 12% patients were not satisfied. Hospital stay was significantly shorter in group I 2.58±1.24 days as compared to group II 5.72±2.66 days (p-value <0.001). Mean operative time was significantly shorter 65.26±14.58 minute in group I as compared to group II 86.44±20.36 minutes [p<0.001] (Table 2). Post-operative complications were also concluded in which frequency of group I was slightly lower than that of group II (Table 3).

DISCUSSION

Appendicitis along with its complications is a major health burden for the developing world. In this study we presented the 180 patients to compared the of early exploration versus conservative appendectomy with appendicular mass, and we concluded that early exploration is safe and effective as compared to interval appendectomy in patients with appendicular mass, these results showed resemblance to the previous studies presented by Demetrashvili et al.[10]

Total 180 patients were included in this study and arranged to divide into two equal groups with mean age of the patients were 24.08±10.6 years and 24.78±6.22 years respectively. Post operatively outcomes were measured between both groups and concluded that the efficacy of early exploration was greater in numbers as compared to the group of conventional appendectomy, this was comparable to the previous study conducted by Rahman et al.[11] This study showed that more patients 96% were satisfied and 4% were not in group I as compared to group II 87% patients were satisfied and 12% patients were not satisfied. Hospital stay was significantly shorter in group I 2.58±1.24 days as compared to group II 5.72±2.66 days (p-value <0.001). Mean operative time was significantly shorter 65.26±14.58 minute in group I as compared to group II 86.44±20.36 minutes (p-value <0.001). Church et al[12] presented in his study that early appendectomy reduces costs in children with perforated appendicitis. Bonadio et al[13] presented that an appendix mass ranges from a simple inflammatory mass (phlegmon) to appendicular perforation or gangrene with peri-appendiceal collection of pus (appendiceal abscess).

In other studies with appendix mass, perforated appendix or appendicular abscess, the mean duration of presentation was between 3 and 4 days.[14,15] Frequency of complications were greater in conventional appendectomy as compared to early exploration in our study. Fugazzola et al[16] presented in their studies that patients discharged after conventional appendectomy had more chances of readmissions and risk of recurrent appendicitis and showed more complications than that of early exploration.

CONCLUSION

Early exploration is a better and more effective option than conventional method as it confirms the diagnosis, cures the disease, obviates the need of a second admission and reduces the cost of management by reducing the hospital stay. There is no difference in postoperative complication in both methods but hospital stay is much shorter in early exploration groups.

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