International Surgery Journal
Chaudhary MK et al. Int Surg J. 2020 Sep;7(9):3065-3067
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: http://dx.doi.org/10.18203/2349-2902.isj20203538

Case Series

Laparoscopic management of appendicular lump

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Received: 25 July 2020
Revised: 11 August 2020
Accepted: 13 August 2020

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ABSTRACT

The surgical management of an appendicular lump remains controversial. With the revolution and advancement of laparoscopic instrumentation and technical learning curve, it is possible to remove an inflamed appendix in presence of lump. This retrospective study was performed between August 2018 and August 2019 in AIIMS Raipur, 86 patients were treated for appendicitis laparoscopically, in these 14 patients had appendicular lump at the time of admission. 12 patients (total 14; 2 patients were excluded) underwent laparoscopic intervention for appendicular lump. Average operative time were 90 minutes. Average post-operative hospital stay were 5 days. Post-operative complications were seen in 2 patients (surgical site infection). In histopathology report, appendicular inflammation suggestive of appendicitis were present in all operated cases. We conclude, early laparoscopic appendectomy confirms the diagnosis. It is safe and feasible in patients with appendicular lump. It reduces the treatment cost, early recovery and satisfactory overall outcome.

Keywords: Appendicitis, Inflamed appendix, Appendicular lump, Laparoscopic management

INTRODUCTION

Acute appendicitis is one the commonest cause of acute abdomen. The best treatment of acute appendicitis is often emergency appendectomy (open/laparoscopic). If treatment is delayed, complications like Appendicular lump progresses.[1] Appendicular lump is formed in 2-6% cases of acute appendicitis, if early appendectomy is delayed.[2]

The surgical management of an appendicular lump still remains a big controversy among surgeons. Conventional treatment according to Ochsner-Sherren regime, has been practiced over years as standard treatment for the Appendicular lump. Failure of conservative regime occurs in 2-4% cases (upto 10% cases), where urgent exploration is essential.[2,3] Moreover, in 10-20% of the cases, conservative management fails, and the patients need an emergency operation due to deterioration of clinical status within first 48 hour, which is comparatively more difficult and has significant morbidity.[4]

With the revolution and advancement of laparoscopic instrumentation and technical learning curve, it is possible to remove an inflamed appendix in presence of lump. It also offers the advantage of avoiding misdiagnoses and need for further hospitalization. In the era where facilities and expertise for laparoscopic surgery and anesthesia are available, early exploration of appendicular lump is recommended, this shortens the hospital stay, cures and diagnose disease at earliest, and eliminate need for second hospital admission with no added morbidity and mortality.[3,5,6]

The aim was to determine the safety and possibility of early laparoscopic appendectomy in patients presenting with appendicular lump.

CASE SERIES

This retrospective observational study was performed on patients, who were treated laparoscopically for appendicular lump between August 2018 and August 2019 in AIIMS Raipur. Among 86 patients treated laparoscopically for appendicitis, 14 patients (16.2%) had appendicular lump at the time of admission. 2 patients had conversion of laparoscopic to definite open procedure in view of gangrenous caecum (both underwent right hemicolectomy), thus they were excluded from the study.

Injection ceftriaxone and metronidazole were given pre-operatively. Laparoscopic appendectomy was performed via umbilical access for 10 mm camera port and 2 lateral working ports of 5mm each. With diagnostic laparoscopy, all area was inspected, and aspiration of collection/pus, followed by lavage of peritoneal cavity with warm normal saline. Catgut loop were used for appendicular base ligation. Drain were placed in 8 patients.

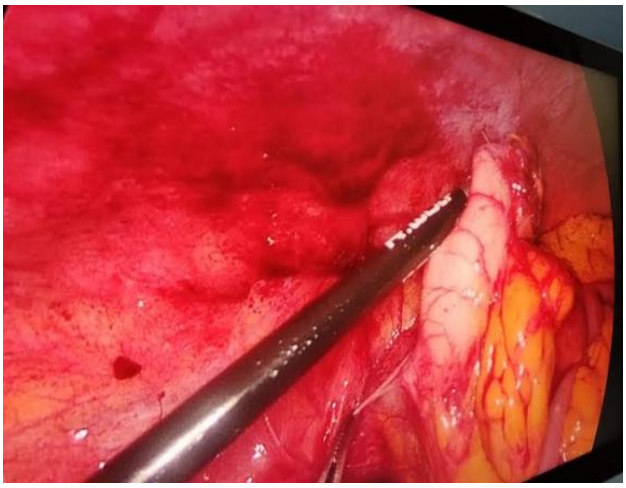

Figure 1: Appendicular adhesions with ileal mesentery and omentum.

Figure 2: Localized abscess.

Table 1: Results.

Variables	Number
Lap appendectomy (August 2018 to August 2019)	86
Appendicular lump N (%)	14 (16.2)
Conversion to open (not included in study) N (%)	2 of 14 (14.28)
No. of patients included in the study	12
Male: female ratio	2:1
Age group in years (N)	
20-30	8
30-45	4
Intra-operative findings N (%)	
Gangrenous appendix	2 (16.6)
Perforated tip	3 (25)
Appendicular abscess	5 (41.6)
Localized pus	2 (16.6)
Intra-operative difficulties N (%)	
Hemorrhage	2 (16.6)
Difficulty in appendix identification and localization	7 (58.3)
Difficulty in dissection and separation of appendix	3 (25)
Average operative time (in minutes)	90
Post-operative complications-surgical site infection (port-site) N (%)	2 (16.6)
Average length of hospital stays (in days)	5 (4-8)

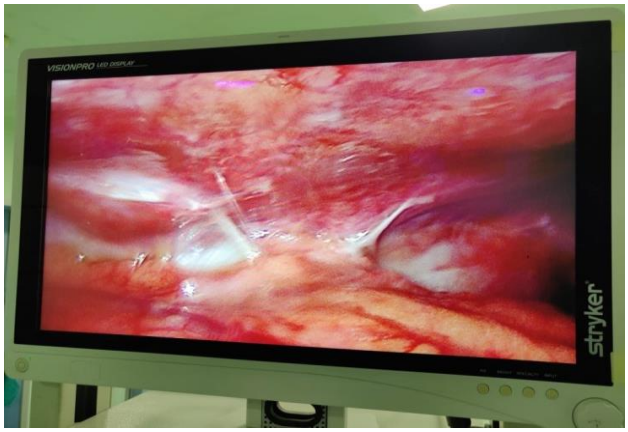

Figure 3: Perforated appendicular tip.

Of the 12 patients included in our series, we had 8 male and 4 female patients. 8 of our patients were between 20-30 years of age group, remaining 4 were between 30-45 years. Intra-operatively, we witnessed gangrenous appendix in 2 (16.6%) patients, perforated tip in 3 (25%) patients, appendicular abscess among 5 (41.6%) patients, and the localized pus were present in 2 (16.6%) patients.

The average operative time were 90 minutes. And the average hospital stay course were 5 days.

Intra-operative difficulties were in the form of hemorrhage in 2 (16.6%) patients, difficulty in appendix identification and localization among 7 (58.3%) patients, and in 3 (25%) patients' difficulty in dissection and separation of appendix. 2 (16.6%) patients there was port-site surgical site infection, which was managed conservatively and patient subsequently improved.

DISCUSSION

Early appendectomy is the accepted therapy for acute appendicitis. The management of patients with late presentation/appendicular lump, still remains a debate among surgery community. This clinical problem represents 2-6% of patients with appendicitis admitted in hospital.[2,3] Appendicular lump associated with advanced appendicitis may compose of adherent omentum and small bowel loops, or abscesses of various sizes.

The non-operative management of the appendicular lump has been satisfactory in several series. In Ajaz et al they achieved 96.8% results.[7] But conservative non-operative management is not always successful, in Bahram series, 11 of 46 patients (25%) thought to have a phlegmon were subsequently found to have peri-appendiceal abscesses.[1] According to Pandey et al**,** during conservative treatment 10-20% are not resolved and lead to gangrene or perforation followed by localized abscess and generalized peritonitis requiring emergency surgical intervention.[8-10]

With the advent of antibiotics designed to prevent the growth of anaerobes, early appendectomy can now be carried out without complication.[1] Hence, emergency appendectomy for appendix lump is emerging as an alternative to conventional conservative treatment. It is said to be feasible, safe, and cost-effective, allowing early diagnosis and treatment of unexpected pathology.[9]

In comparison with other study, our results are near to Prasad et al and Shindholimath et al.[8,9] These studies also reported that laparoscopic appendectomy in appendicitis and appendicular lump resulted in fewer complications, a shorter hospital stay and a lower hospital cost than open appendectomy in patients with perforated appendicitis.[8,9]

CONCLUSION

Our study concludes that laparoscopic appendectomy is more feasible in patients with appendicular lump and we recommend early surgery in patients with appendicitis and a palpable lump.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Chaudhary MK, Shankar M, Baruah TD, Ray R, Samal S. Laparoscopic management of appendicular lump. Int Surg J 2020;7:3065-7.