

To Determine that in Cases of Acute Appendicitis and Appendicular Perforation, Appendicular Base around 2 cm Remains Healthy

Dr. Archana Sharma¹, Dr. Devendra Kumar², Dr. Mrityunjai Kumar³

¹Junior Resident, Surgery Department, JLN MCH Bhagalpur

²Senior Resident, Surgery Department, JLN MCH Bhagalpur

³Ex HOD, Associate Prof., Surgery Department, JLN MCH Bhagalpur

Abstract: ***Aim:** To determine that in cases of acute appendicitis and appendicular perforation, appendicular base around 2 cm remains healthy. **Objective:** 2 cm of base of appendix remains spared in cases of acute appendicitis and appendicular perforation aiding in ligation of healthy stump even in complicated cases. **METHODS:** - It is a case series of 50 appendectomies which was done between august 2022 to september 2023, either by open or laparoscopic. **Inclusion Criteria:** Patients undergoing open and laparoscopic appendectomy for acute appendicitis and appendicular perforation giving consent. **Exclusion Criteria:** Patients with prior radiological evidence of appendicular lump and undergoing interval appendectomy. **Results:** Total 50 cases were studied, out of which 35 perforations were on tip, 8 on different parts of body, 5 just distal to 2 cm of base, and 2 cases on the base. **Conclusion:** Base of appendix remains healthy until the later stages in acute appendicitis and rarely gets inflamed or perforated, probably due to dual blood supply by appendicular artery and branches from ceecal artery. This finding enable us to look confidently for a healthy stump for ligation even in adhered and complicated cases.*

1. Introduction

Acute appendicitis is the most common cause of an 'acute abdomen' in young adults and appendectomy is the most frequently performed urgent abdominal operation and is often the first major procedure performed by a surgeon in training.

Anatomy

The appendicular artery is a branch of the lower division of the ileocolic artery passes behind the terminal ileum to enter the mesoappendix a short distance from the base of the appendix. It then comes to lie in the free border of the mesoappendix. An accessory appendicular artery may be present but, in most people, the appendicular artery is an 'end - artery', thrombosis of which results in necrosis of the appendix.

Sometimes, as much as the distal one - third of the appendix is devoid of mesoappendix. So, the tip is the commonest part to perforate. This study aims to determine cases and cause of healthy 2 cm of base in most of the cases of acute appendicitis and appendicular perforation so as to enable us to ligate the healthy base and prevent stump appendicitis as

well as ligating the gangrenous/unhealthy part just above the healthy base.

2. Aims and Objective

To determine that in cases of acute appendicitis and appendicular perforation, appendicular base around 2 cm remains healthy. To determine the cause of healthy base in complicated appendicitis. To determine 2 cm of base of appendix remains spared in cases of acute appendicitis and appendicular perforation aiding in ligation of healthy stump even in complicated cases to prevent stump appendicitis and ligation of unhealthy part.

3. Method

Patient was diagnosed as acute appendicitis and appendicular perforation on the basis of clinical features, alvarado scoring and proper investigation. After proper pre op workup and informed consent, patient was undertaken for either laparoscopic or, open appendectomy and base of appendix was observed.

Normal base acute appendicitis in Lap appendicectomy -



Normal base in acute appendicitis in open appendicectomy -



Normal base in Appendicular perforation at different sites -



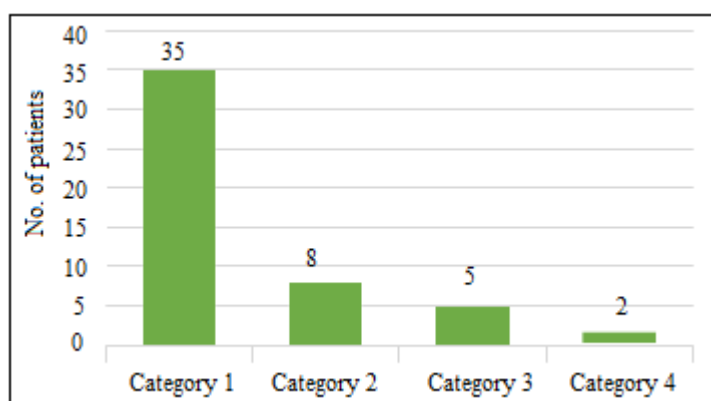
Perforations at base (rare finding): -



laparoscopic appendicectomy out of which 35 perforations as well as inflammation were found on tip (Category 1), 8 on different parts of body (category 2), 5 just distal to 2 cm of base (category 3), and 2 cases on the base (category 4).

4. Results

Total 50 cases were studied including both open and



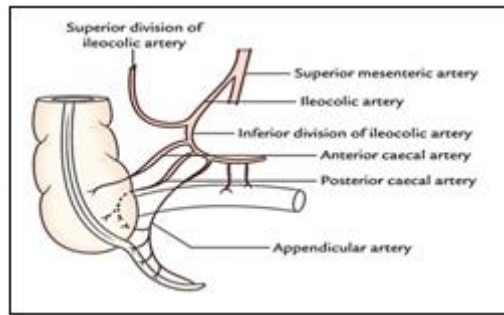
5. Discussion

Stump appendicitis is one of the rare but important side effect after appendicectomy. (1: 50000) Its more common in a complicated appendicitis like perforated appendix and lump.

Although the technique of appendectomy for perforation is the same as for simple appendicitis, the level of difficulty encountered in removing a friable, gangrenous, perforated appendix can be a challenge to the most experienced

surgeon and requires gentle meticulous handling of the friable appendix and inflamed peri - appendiceal tissues to avoid tissue injury. So to avoid any such complication, surgeons often ligate the appendix before reaching the base mistakenly or by compulsion leaving the possibility of stump appendicitis which needs a completion appendicectomy. However as seen in my study, the base of appendix is healthy in almost all cases. Dual blood supply to the base of appendix (Appendicular artery and posterior caecal artery) might be the cause of healthy base. So by gentle manipulation, if at all its possible, one should always

try to reach till the healthy 2 cm of base and ligate the appendix there to avoid the possibility of stump appendicitis in future.



6. Conclusion

Base of appendix remains healthy until the later stages in acute appendicitis and rarely gets inflamed or perforated, probably due to dual blood supply by appendicular artery and branches from posterior caecal artery.

This finding enable us to look confidently for a healthy stump for ligation even in adhered and complicated cases.

This prevents one rare but important complication post appendicectomy i. e - stump appendicitis which needs a completion appendicectomy in future.

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