A Comparative Investigation into Appendicitis

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A comparative prospective study was conducted on cases of appendicitis due to faecolith and causes other than faecolith. The results showed differences in terms of clinical presentation and complications (perforation of appendix in this study). This study also shows the incidence of faecolth and the incidence of appendicular perforation in the cases of acute appendicitis.
Key words: Fecolith, appendicular mass

Appendix is a worm shaped, blind ending tube, varying in length from 2 to 25 cm which opens into the posteromedial wall of the caecum[1]. Inflammation of appendix – appendicitis is the most common abdominal surgical emergency, affecting approximately 10% of the population[2]. Faecolith is composed of inspissated faecal material, calcium phosphate, bacterial and epithelial debris[3]. It creates problem when it gets stuck in the lumen of appendix

Aetiology And Pathology

In most cases inflammation of appendix is preceded by obstruction of appendiceal lumen by a faecolith, kinking of the wall, or by sub mucosal lymphoid hyperplasia. Stagnation distal to the obstruction permits multiplication of colonic bacterial flora, including potential pathogens such as Escherichia coli, streptococcus faecalis and anaerobic bacteria. These bacteria then invade the mucosa and appendiceal wall causing acute inflammation[4]. If the appendix is not removed at this stage gangrene occurs with perforation leading to a localized abscess or to generalized peritonitis[5].

Presentation And Diagnosis

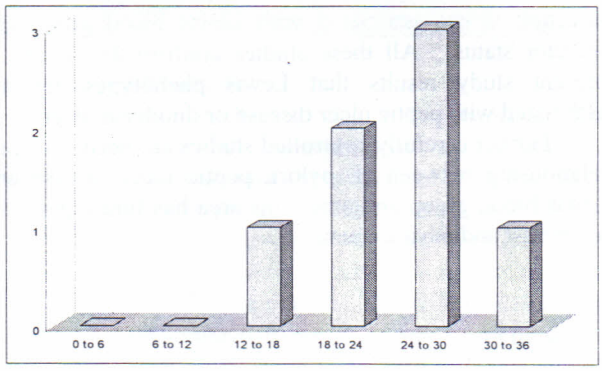
It is essentially a clinical diagnosis. Periumblical pain then shifts to right lower quadrant pain and tenderness, anorexia, nausea and vomiting, obstipation, low grade fever and leucocytosis[2]. The histologic criterion for the diagnosis of acute appendicitis is neutrophilic infiltration of the muscularis[7].

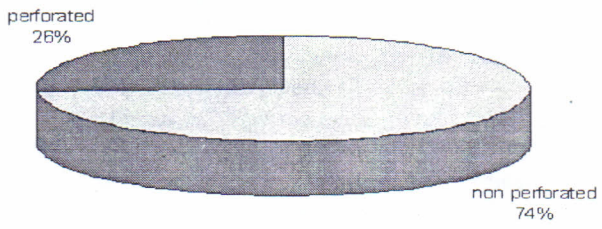
Method

Patients between the ages of 20-50 years were selected (to exclude extremes of ages). The presence or absence of faecolith was done per operatively with naked eye examination. Appendicitis caused by pathologies of surrounding areas was not included e.g; ileitis due to TB or typhoid fever, appendectomies done for failure of Ochsner-Sherren regimen and cases of appendicular mass, were not included. The complication that was studied was perforation of the appendix and also the time of presentation.

Data: This data was collected from North Surgical Unit, Mayo Hospital, Lahore. Total 100 cases were included in the study out of which 20 were found to have faecolith. Out of these 20; 7 cases had perforated appendix and 13 had non perforated appendix. Out of the remaining 80 cases which did not have faecolith, 19 had perforated appendix. Most of the cases of faecolith present early (within 12 hours) with severe clinical signs and symptoms. Out of the 7 cases only 2 cases presented after 30 hours while rest of the 5 cases presented before 30 hours. The earliest case of perforation presented after 12 hours. In the remaining 13 cases only 3 cases presented after 30 hours and had no peroration, while 8 cases presented before 12 hours and 2 cases presented between 12 and 30 hours. The rest of the cases of perforation fell in between. For non faecolith cases presentation is mostly after 12 hours- 63 cases after 12 hours and 17 cases before 12 hours. Out of the 19 cases 17 had a history of more than 60 hours. The earliest case of perforation was at 46 hours.

Distribution of Total Cases of Appendicitis on Basis of Aetiology





Incidence of Perforation in Cases of Acute Appendicitis

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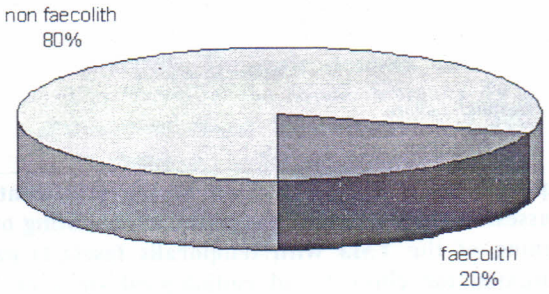

Results:

Incidence of faecolith is 20 %.

Patient with faecolith have severe clinical signs and symptoms from the onset and they present early (within 12 hours).

Incidence of perforation is high after 12 hours of pain in faecolith cases (1/3 cases).

Incidence of perforation in non faecolith cases is low after same duration of time.

They present usually after 12 hours of pain. Incidence of perforation is very high after 60 hours.

Conclusion

Incidence of perforation in the cases of appendicitis is slightly higher (1/3 of total faecolith cases) than non faecolith cases (1/4 of total non faecolth cases) in terms of no. but after same duration of time the incidence is much higher in cases of faecolith.

Any pain with suspicion of appendicitis should not be delayed beyond 12 hours as it may lead to perforation.

With early diagnosis and operation of appendicitis the incidence of laparotomies can be reduced.

There should be created awareness in the population to recognize the condition early and seek help early.

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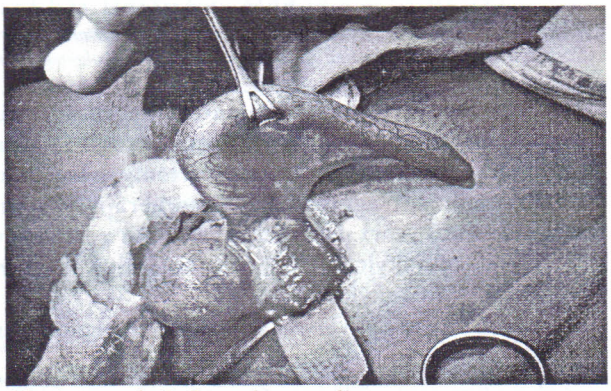

8. Fig 2 Acutely Inflamed appendix

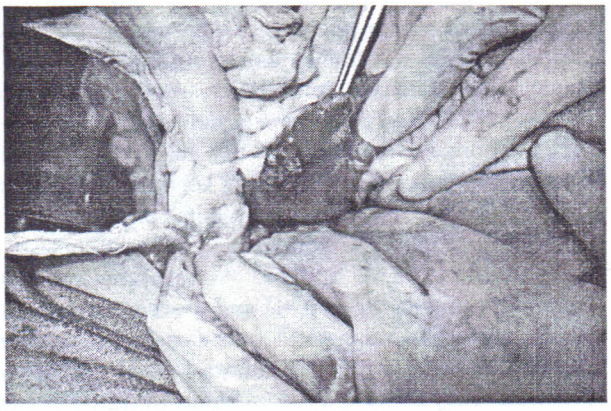

Fig. 2 Perforated Appendix

Fig 3 Fecolith in appendix