Original Article

Clinicopathological Diagnosis of Acute Appendicitis after Emergency Appendicectomy

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ABSTRACT

Objective: To evaluate the features of emergency appendicectomy.

Methods: We analyzed 100 cases of emergency appendicectomies performed at Combined Military Hospital (CMH) Kharian.

Results: The age range was 3.5 to 70 years and males were thrice frequently affected. Grossly, 46% of the appendices were normal looking whereas on microscopy this figure was 27%. Acute or acute suppurative inflammation was found in 57% cases whereas 5% were gangrenous. Entrobiasis was found in 7% cases and one was harbouring a malignant tumor.

Conclusion: We found 27 % appendices histologically normal as a result of emergency appendicectomy. (Rawal Med J 2005;30: )

Key Words: Appendix, appendicitis, appendectomy
INTRODUCTION

Appendicitis is one of the commonest causes of acute abdomen. It alone is responsible for more operations than all other abdominal procedures.\(^1\) Different surveys indicate that approximately 10% of the patients in the United States and other western countries develop appendicitis at some time.\(^1\) It is rare before the age of 2 years but affects all age groups especially children and young adults.\(^2,3\) The most common presenting symptoms are abdominal pain, which starts as central and then settles in the right iliac fossa.\(^2,4\) The common conditions confused with appendicitis are pelvic inflammatory diseases and ectopic pregnancy in case of females\(^2\) and mesenteric lymphadenitis in case of children.\(^2,4\) Pain due to right ureteric colic and inflammatory bowel disease can be mistaken for this disease in adults.\(^2\) The aim of this study is to report clinicopathological pattern of emergency appendicectomies in this hospital.

MATERIALS AND METHODS

CMH Kharian is a 600-bed teaching hospital. The histopathology department of this hospital receives specimens from the surgical units of this hospital and from the civil hospitals of the surrounding cities. The clinical data was recorded from the patients and / or attending clinicians. The gross examination of the specimen was performed and adequate representative sections were taken.\(^5\) The material was processed under standardized conditions for paraffin embedding. The tissue sections were stained with Hemotoxylin and eosin, with special stains as and when required.
RESULTS

A total of 100 cases having undergone appendicectomies were included in the study. The age range was between 3.5 - 70 years. Male to female ratio was 3:1. The commonest mode of presentation was pain, in the right iliac fossa (75%) and in abdomen (25%), followed by nausea and vomiting in 65%. Tenderness in the right iliac fossa was noted in 90% and muscle guarding in 70%. Only 33% of cases were having temperature of 99°F or more.

Table. Showing gross and microscopic appearances of the cases

<table>
<thead>
<tr>
<th>Gross Appearance</th>
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<tbody>
<tr>
<td>Normal looking</td>
<td>46%</td>
</tr>
<tr>
<td>Swollen</td>
<td>34%</td>
</tr>
<tr>
<td>Macerated</td>
<td>15%</td>
</tr>
<tr>
<td>Perforated</td>
<td>05%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Microscopic Appearance</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute inflammation</td>
<td>45%</td>
</tr>
<tr>
<td>Acute suppurative inflammation</td>
<td>12%</td>
</tr>
<tr>
<td>Enterobiasis</td>
<td>07%</td>
</tr>
<tr>
<td>Perforated/gangrenous</td>
<td>05%</td>
</tr>
<tr>
<td>Fibrotic</td>
<td>02%</td>
</tr>
<tr>
<td>Mucocele</td>
<td>01%</td>
</tr>
<tr>
<td>Mucinous Adenocarcinoma</td>
<td>01%</td>
</tr>
<tr>
<td>Normal</td>
<td>27%</td>
</tr>
</tbody>
</table>

The appendix size was 2.5 - 12 cm, with mean size of 5.9 cm. The largest mass of 12 cm was seen in a mucocele of appendix. The gross appearance of the specimens is shown in the table. Microscopic examination showed that 57% had acute / acute suppurative inflammation with 27% normal appendices (Table). Entrobiasis (7%) and gangrenous appendix (5%) were also seen, whereas one had malignant tumor (mucinous adenocarcinoma).
The appendectomies of 87% cases were done through grid iron incision, 9% by paramedian and 3% by transverse incisions.

**DISCUSSION**

Acute appendicitis is mostly seen in children and young adults and it is rare before the age of two.² as observed in this study. More males were affected than females, as seen in other studies.⁶,⁷,⁸ The patients having this type of inflammation usually present with the pain in right iliac fossa, pain abdomen, nausea and vomiting.¹,²,⁴ On gross examination we found that 46% of the appendices were normal looking, whereas on microscopy this figure was 27%, meaning thereby that quite significant grossly normal looking appendices may be actually acutely inflamed. Removal of normal appendices is not unusual and in a European study 33% appendices removed were found normal.²

We had 27% cases where neither the appendix was acutely inflamed nor was having any other pathology. Some type of obstructive element is found in 30% cases.¹,² We found definite obstruction in 10 cases (7% entrobiasis and 3% fecolith). Entrobiasis is mostly found in children as in our finding.⁹ The mortality of 0-8% have been reported from perforated appendicitis.¹⁰,¹¹ The mortality is further increased if perforation occurs at extremes of age.¹² We found 5 cases with perforated appendicitis but no mortality was seen. The tumors of the appendix are rare and their symptoms may be like acute appendicitis. Common benign tumors are mucinous cystadenoma, which may be associated with 20% appendiceal perforations.¹³ The common malignant tumors are mucinous cystadenocarcinoma. Pure primary adenocarcinomas are rare and
microscopically it is similar to that of other colorectal adenocarcinomas. We found only one case of malignant tumour. Another common tumour is carcinoid tumor which involves tip of the appendix and is reported in one out of 300 routine appendicectomies. In all of our cases open appendicectomy was performed and no mortality was observed. Presently, leproscopic appendicectomy is being performed at some centers with good results. In conclusion, we found 27% of appendices to be histopathologically normal after emergency appendicectomies performed in this hospital. There was no mortality.

REFERENCES


