

Tuberculosis In Patients of Acute Appendicitis

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ABSTRACT

Objective To determine the frequency of unusual findings of tuberculosis on histopathology of an appendix specimen in patients undergoing appendectomy for acute appendicitis.

Study design Descriptive case series.

Place & Duration of study Department of General Surgery Jinnah Postgraduate Medical Centre (JPMC) Karachi, from June 2014 to December 2014

Methodology All patients who underwent appendectomy were enrolled. The Alvarado scoring system was used to make the diagnosis. Surgery was done according to hospital protocol. Following surgery, specimen of appendix was sent for histopathology. Diagnosis of tuberculosis was made on the presence of chronic granulomatous inflammation with caseation and giant cells under microscopy. Data was analyzed by SPSS version 19.0. Descriptive statistics were used for data presentation

Results A total of 280 patients were included. There were 200 male and 80 female patients. Age of the patients varied from 18 year to 55 year. The mean age of study participants was 25.46±5.81 year. In seventeen patients specimen showed findings of chronic granulomatous inflammation constituting 6.1% of the total. This included eight males and nine females. In seven patients of this cohort there was a positive contact history of tuberculosis.

Conclusion Histopathology of appendix specimens should be followed for unusual observations like tuberculosis, so that such infectious diseases can be treated adequately.

Key words Appendectomy, Tuberculosis, Histo-pathological findings, Chronic granulomatous inflammation.

INTRODUCTION:

Appendicitis is the most commonly encountered surgical emergency worldwide. Its peak incidence is in the teens and early 20's and the most common etiology of acute appendicitis is presence of a fecolith. There are other rare causes which are often missed. Symptoms of acute appendicitis overlap with a number of other conditions making its clinical diagnosis a challenge, especially at an early stage of presentation.¹ Alvarado scoring is helpful in the diagnosing acute appendicitis. Early

diagnosis of acute appendicitis, urgent surgery followed by biopsy are needed to prevent morbidity.

Tuberculosis has been a persistent menace worldwide especially in our part of the world. It is one of the most prevalent and difficult diseases to eradicate due to varied presentations therefore making it a dilemma to diagnose and treat adequately.² Abdomen is the sixth most common extra pulmonary site involved by tuberculosis. The ileo-cecal region is the most commonly affected part and appendix rarely gets involved in about 1.5 to 3 % of cases. In patients with known tuberculosis, the incidence of tuberculous appendicitis ranges from 1.5% to 30%. Tuberculosis of the appendix presenting with the constitutional signs and symptoms of acute appendicitis is rare in the western countries.³ Appendicular TB may be primary or it may also be secondary to tuberculous infection in another part of the body.^{4,5} On histopathology presence of chronic

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granulomatous inflammation with caseation and giant cells is indicative of tuberculosis.^{4,6-8}

The purpose of this study was to find out involvement of appendix in other disease processes like tuberculosis and to emphasize importance of histopathology of resected specimen after surgery.

METHODOLOGY:

This descriptive case series was conducted in the Department of Surgery JPMC Karachi, from June 2014 to December 2014. Patients of abdominal pain with an Alvarado score between 7-10 were considered as having acute appendicitis. Appendectomy was performed after written consent by the patients. All patients underwent appendectomy as per hospital protocol. Specimens preserved in formalin were sent for histopathological assessment.

RESULTS:

A total 280 patients of either gender with age between 18 year to 55 year were operated. There were 200 male and 80 female patients. The mean age of the study subjects was 25.46±5.81 year with range 22 (18-40) year. History of TB contact was present in 51 patients. Histopathological finding of chronic granulomatous inflammation was found in 17 patients. Among these 17 patients with positive histopathological findings, eight were males and nine females. Ten patients were aged <25 year. Seven patients had positive history of tuberculosis.

DISCUSSION:

In this study histopathological evidence of tuberculosis was found in specimen of appendix in seventeen patients who underwent appendectomy. This observation is consistent with a study published by Memon et al where 13% patients were diagnosed as having tuberculous appendicitis. This is contrast with other study from Pakistan in which 3% of patients were diagnosed with tuberculous appendicitis.^{9,10} Akbulut et al in their series noted lymphoid hyperplasia and enterobius vermicularis and tuberculosis in appendix in 3.7 % of the total patients.¹¹ In our study only 6% specimens had features of chronic granulomatous inflammation while in other lymphoid hyperplasia and other features were present.

A study done by Ziari and Alizadeh showed that 1.9% patients in their series had granulomatous inflammation of the appendix.¹² Ojo et al also conducted a survey of 316 appendices amongst which four cases had granulomatous inflammation. Similarly Yilmaz et al revealed five similar cases.¹³

Chong et al carried out a review over a fifteen year period of 6593 patients suffering from acute appendicitis and found that five (0.08%) patients had primary tuberculous appendicitis. All studies supported the observation that tuberculous appendicitis is rare and patients needed anti-tuberculous therapy.¹⁴⁻¹⁶ It is suggested that all histopathological specimens should be audited to enhance clinical evaluation particularly in females in whom the negative appendectomy rate is high.

CONCLUSION:

A proper histopathological analysis of appendix specimens is mandatory and the results should be promptly followed so that causes like tuberculosis can be treated.

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