



HISTOPATHOLOGICAL STUDY OF LESIONS OF THE APPENDIX SPECIMENS- A THREE YEAR RETROSPECTIVE STUDY AT A TERTIARY CARE CENTER

Pathology

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ABSTRACT

Background- The human appendix is a supposedly functionless organ, but can cause morbidity & mortality because it is likely to become infected.

Methods- A 3 years study was performed on 1751 appendix specimen. In each case, clinical findings were correlated with histopathological features.

Result- Out of 1751 appendectomy specimens, 731 specimen were acute appendicitis, 350 specimen were healing appendicitis, 192 specimen were healed appendicitis, 186 specimen were Periappendicitis, 4 specimen were adenocarcinoma 4 specimen were enterobius vermicularis and 3 specimen were carcinoid specimen were carcinoid.

Conclusion- Histopathological examination of every appendix is necessary for confirmation of acute or chronic appendicitis and also differentiated neoplastic condition like carcinoma, adenocarcinoma.

KEYWORDS

Appendix, Acute, Chronic, Healed

INTRODUCTION

The appendix, a vestigial organ in humans, is attached to caecum. Appendicitis is one of the common causes of acute abdomen and emergency surgery resulting in significant morbidity and mortality.¹

Acute appendicitis presents with pain in the right iliac fossa, fever, vomiting, tenderness, guarding and rigidity with rebound tenderness. These patients commonly have leukocytosis and absolute neutrophilia. Early appendectomy relieves all symptoms. Misdiagnosis often leads to removal of un-inflamed appendix. The thought that prevailed in 20th century was that the immediate complication i.e., perforation of appendix is avoided by early surgical removal resulting in rise of negative appendix rates to more than 20%. Diagnostic laparoscopy combined with Alvarado score is one such step taken to reduce it. There is rise in use of Ultrasonography (USG), Computed Tomography (CT), Magnetic Resonance Imaging (MRI) to reduce negative appendectomy rates.³

Histopathological examination still remains the gold standard for the confirmation of appendicitis. Not only the pathologic diagnosis of acute inflammation, unusual findings such as incidental tumors noted in the appendix highlight the importance of pathologic analysis of every single resected appendix.⁴ Appendiceal tumors are unusual, the majority being neuroendocrine tumors (NET/carcinoids) while the remaining includes adenoma, adenocarcinoma, lymphomas & Kaposi sarcoma.⁵

MATERIALS AND METHODS

The present study was conducted in the Department of Pathology, Sardar Patel Medical College, Bikaner (Rajasthan). Histopathological examination of resected appendices was done retrospectively over a period of 3 years from 1st Jan. 2018 to 31st Dec. 2020. In each case, a brief clinical history and physical examination along with the evaluation of available relevant investigations was carried out. The specimens were fixed in 10% buffered formalin. A detailed gross examination of the appendectomy specimen was carried out. The cut section was looked for luminal patency, presence of faecolith, pus, mucus and worms (parasites). 3 sections including one transverse from middle-third, one from resection margin and one longitudinal section from the tip were submitted for histopathology. Following the grossing of the specimens, formalin fixed, paraffin embedded tissue blocks were cut using a rotary microtome and staining was done using Hematoxylin and Eosin. The histopathological findings were correlated with the clinical findings and final report was prepared.

STATISTICAL ANALYSIS

Statistical analysis was performed using Statistical Package for the

Social Sciences Software (Version 22.0; SPSS, Inc, Chicago, IL). Patient data for each demographic or histopathologic characteristic were summarized as Mean±standard deviation. Incidence of a characteristic within a particular group was calculated as percentage of the entire study population. Fisher's-exact test was performed and a p-value of <0.05 considered as significant.

RESULTS

Table no. 1 .Histopathological findings in appendectomy specimen

Finding	No of case	Percentage
Acute	931	
Chronic	47	
Healing	350	
Healed	192	
Periappendicitis	186	
Acute necrotizing appendix	24	
Gangrenous appendicitis	4	
Mucocele	4	
Adenocarcinoma	4	
Carcinoid	3	
Enterobius vermicularis	4	
Pseudomyoma peritonei	1	
Metastasis	1	

DISCUSSION

In the present study 1751 appendectomy specimens were studied in Department of Pathology, Sardar Patel Medical College, Bikaner.

Acute appendicitis constituted the single largest category of diagnosis 931/1751 (53.17%) in the present study. Acute appendicitis is the most frequently encountered surgical emergency. It accounts for about 40% of all surgical emergencies.²

Chronic appendicitis also constituted the major category of diagnosis 47/1751 (2.68%) in the present study. Criteria for diagnosis of chronic appendicitis were evidence of active chronic inflammation with infiltration of the muscle coat & serosa by lymphocytes & plasma cells.

¹ Chronic appendicitis showed hyperplastic lymphoid follicles with prominent germinal centres indicating stimulation of B cell mediated immune response. 186 cases shows periappendicitis.

It has been observed that diagnosed as acute appendicitis, there is discrepancy between the histopathological and clinical diagnosis. The histopathological study of appendix has the advantage that it confirms the diagnosis of acute appendicitis. Also, it reveals other important pathological findings that may not be obvious on gross examination

intraoperatively but may affect further clinical management of patient.
⁶ Regardless of advances in technology, there is no laboratory test or examination with adequate specificity and sensitivity to diagnose appendicitis consistently. Around 7% of the total population will be diagnosed with appendicitis in their lifetime with peak age incidence between 10 and 30 years⁷

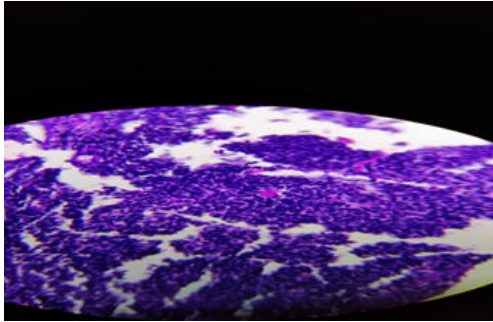


Fig.1. Carcinoid appendix

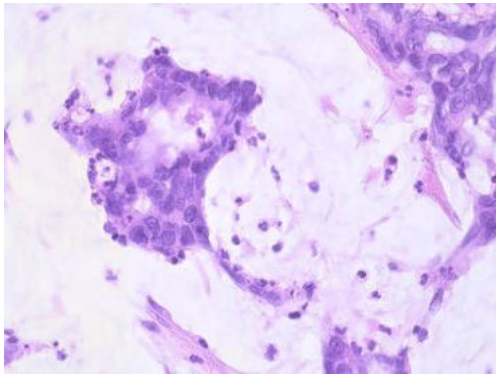


Fig.2. Adenocarcinoma appendix

CONCLUSION

Histopathological examination of every appendix is necessary for confirmation of acute or chronic appendicitis. and also differentiated neoplastic condition like carcinoma, adenocarcinoma.

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