Case Report

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Management of appendiceal mucocele diagnosed intraoperatively

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ABSTRACT

Diagnosis of appendiceal mucocele is usually made intraoperatively in emergency operation theatre. It is crucial to recognize and treat this condition appropriately. This study reports management of such cases and their follow up. All cases of appendiceal mucocele diagnosed introperatively in patients undergoing emergency appendectomy at NMCH, Patna over duration of 1 year. Among 210 cases of appendectomy we found two cases of appendiceal mucocele. One patients underwent limited ileocaecal resection and appendectomy was done in the other case. Appendiceal mucocele should be recognized and treated appropriately. Limited ileocaecal resection along with taking care to avoid spillage of contents may suffice at primary surgery. Follow up can be done once histopathological diagnosis and margins are confirmed.

Keywords: Appendicitis, Mucocele, Mucinous cystadenoma, Pseudomyxomaperitonei

INTRODUCTION

Appendiceal mucocele is an obstructive dilatation of appendix caused by intraluminal accumulation of mucoid material. It is a rare disease. The incidence is 0.2% to 0.7% of all appendectomied specimens.¹⁻² The most dreaded complication of benign or malignant mucocele is pseudomyxomaperitonei, which is difficult to treat surgically or medically. It has an uncertain prognosis, with a 5-year survival rate between 53% and 75%.^{3,4}

As acute appendicitis is one of the most common surgical emergency, it is important to differentiate between the two pathologies and select appropriate surgery. Differentiating between appendiceal mucocele and acute appendicitis, a disease frequently encountered in emergency departments, is crucial as a substantial percentage of appendiceal mucocele patients present with symptoms indicative of acute appendicitis.^{5,6} It becomes more important when the diagnosis has not been made before surgery.

CASE REPORT

Between October 2017 and September 2018, 210 patient underwent emergency appendectomy at NMCH, a tertiary center in Patna, Bihar, India. Two patients were diagnosed on table as a case of mucocele appendix. Their management is discussed as under.

Case 1

35 year old lady presented with acute onset pain abdomen for last 2 days with nausea and fever. There was no previous history of similar complain. On examination patient was afebrile. The abdominal examination was normal except for localized tenderness over McBurney's Point without rebound tenderness on palpation. USG abdomen was normal except for probe tenderness in right iliac fossa. On lab analysis leukocytosis was present (TLC-11500). Patient was taken for surgery with diagnosis of acute appendicitis. On table entire appendix was distended upto the base of caecum, inflamed. Caecum was normal. A limited ileocaecal resection was done. End to end ileo-ascending anastomosis was done and specimen sent for histopathological examination. No lymphadenopathy was present (Figure 1, Figure 2).



Figure 1: Intraoperative picture of appendiceal mucocele.



Figure 2: Resected ileocaecal specimen with appendix.

Case 2

A 37 year old patient presented with features of acute appendicitis. USG was unremarkable. Patient was taken for emergency appendectomy. Intraoperatively distal portion of appendix was widely dilated and inflamed. Appendectomy was done and sample sent for histopathological examination. Histopathological examination report was mucinous cystadenoma confined to distal part of appendix.

HISTOPATHOLOGICAL FINDINGS

Case 1

Low grade appendiceal mucinous neoplasm

- Tumor extension: confined to appendix
- No destructive pattern of invasion identified

- No lymphovascular invasion identified
- Proximal margin of resection negative for the neoplastic mucinous neoplasm.



Figure 3: Histopathological report.

Case 2

Histopathological finding suggestive of mucinous cystadenoma confined to distal part of appendix.

Both cases sent to medical oncologist and were advised closed follow up.

DISCUSSION

In cases of mucocele of appendix diagnosed intraoperatively it becomes very important to decide correct surgical procedure. In our cases we decided to go for limited resection through the same McBurney's incision without formal laparotomy, and follow up with histopathological report. As histopathological report was suggestive of tumor confined to appendix with no lymphovascular invasion and proximal margin free. Oncologist opinion was taken and patient were advised for closed follow up on regular interval.

The term mucocele of appendix was coined by Karl Freiherr Von Rokitansky in 1842.⁷ Its incidence ranges from 0.2% to 0.7%. of all excised appendixes. According to modern classification, there are 4 histological types: retention cyst, mucosal hyperplasia, mucinous cystadenoma and mucinous cystadenocarcinoma. It often presents asymptomatically in most of the cases it is discovered accidently during surgery. A patient's clinical symptoms may include pain in right lower quadrant of the abdomen, palpable abdominal mass, nausea, vomiting, weight loss, gastrointestinal bleeding and sign of intussusception of the intestines.

USG, computed tomography (CT) and colonoscopy is used for diagnostics. USG is the first line diagnostic method for patients with acute abdominal pain. In case of acute appendicitis, the outer diameter threshold of the appendix is 6 mm, and 15 mm and more indicates the presence of mucocele with 83% sensitivity and 92% specificity.⁸⁻¹⁰ CT is regarded as the most accurate method of diagnostics. In our patients USG did not provide the correct information and CT was not performed.

CONCLUSION

Owing to its rarity, mucocele of appendix continues to be surgical challenge for the the surgeons as well as the radiologist. For mucinous cystadenocarcinoma, right hemicolectomy is usually needed, whereas for hyperplasia and cystadenoma, appendectomy for tumors confined to distal appendix/limited ileo cecal resection usually suffices if the resection margin are free.

While surgery is the only known potentially curative treatment, currently there is no consensus regarding the optimal management. However, the extent of surgery, which ranges from appendectomy to right hemicolectomy, depends on several factors. The size of the tumor, its location within the appendix, involvement of the cecum and ileum, presence of mucous collections, the safety margin, involvement of lymph nodes, and the final histology are the determining factors.

In our cases, we performed limited ileocecal resection and on the histopathological report suggested tumor confined to appendix with no lymphovascular invasion. We kept the patient the patient on regular follow up.

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