



ORIGINAL RESEARCH PAPER

General Surgery

APPENDICEAL MUCOCELE—A RARE CASE REPORT

KEY WORDS: Mucocele, Appendix, Benign, Appendicectomy.

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ABSTRACT

Introduction: Appendiceal mucocele is a rare disease and has a clinical picture that resembles Acute Appendicitis. A correct diagnosis before surgery is very important for the selection of surgical technique (appendicectomy/colectomy) to avoid severe intraoperative and postoperative complications. **Case Presentation:** We present a case of 62 year old male admitted with chief complaints of right iliac fossa discomfort, intermittent in nature with nausea and vomitings since 1 day . With the help of USG and CECT preoperative diagnosis of Appendiceal Mucocele was made. The patient underwent elective laparotomy . Intraoperatively Appendiceal Mucocele Diagnosis was made and was confirmed by Histopathological Report. If Mucocele is treated incorrectly pseudomyxoma peritonei which is characterized by a malignant process may develop . **Discussion:** Intraoperatively a cystic mass of appendix with dimensions 9 cm × 8 cm with broad base and inflamed walls but without perforation was discovered in right iliac fossa. Cyst was drained adequately and thorough wash given. Histopathological diagnosis of Appendiceal Mucocele was reported. After 6 months of surgery patient is doing well with no postoperative complications. **Conclusion:** Although Mucocele Appendix is a rare pathology but its diagnosis should be kept in mind during appendicectomy .

INTRODUCTION

The mucocele of the appendix was first described in 1842 by Rokitansky¹. This disease is considered as a rare lesion of the appendix, which is found in 0.3 to 0.7% of appendectomies. It is characterized by the dilation of the organ lumen with mucus accumulation. Appendix mucocele may come as a consequence of obstructive or inflammatory process cystadenomas or cystadenocarcinomas. Besides these causes, other tumor lesions in the appendix or cecum may present as mucocele.

The main complication of mucocele is pseudomyxoma peritonei.² In our case, the mucocele typically presented as right lower quadrant abdominal discomfort and vomiting which favour the clinical diagnosis of acute appendicitis. The symptoms did not assist in making the pre-operative diagnosis of mucocele appendix. The objective of this review is to analyse literature as to mucocele, especially regarding diagnosis and treatment, besides discussing follow-up and prognosis of the individuals who have this disease.

CASE REPORT

A 62 year old male came with one day history of right sided abdominal pain, vomiting and anorexia. There was no associated bladder and bowel symptoms. He was having tenderness and guarding over Right iliac fossa . A well defined mass of size approximately 9*8 cm is palpable in right iliac fossa which is immobile ,firm in consistency not moving with respiration ,with smooth surface. Routine blood investigations were done which showed elevated TLC (11,200/cmm) with neutrophilia, and USG revealed encapsulated cystic lesion in right iliac fossa with liquid content ?Appendicular abscess/mucocele of the Appendix. To confirm this, CECT abdomen and pelvis was done which

showed well circumscribed low attenuating tubular mass showing thin mural calcifications with few attenuating areas along the surface of the mass suggestive of Mucocele of appendix (Fig 1). After thorough evaluation and Pre anaesthetic checkup, patient underwent Laparotomy. Intraoperatively the appendix was inflamed with a large cystic lesion (Fig2) continuous with the appendix extending up to posterior abdominal wall with dense adhesions. Appendicectomy with excision of part of mucocele with adequate drainage was done. He had smooth post operative recovery and patient was discharged on POD 4 and histopathology report shows simple benign mucocele of appendix.

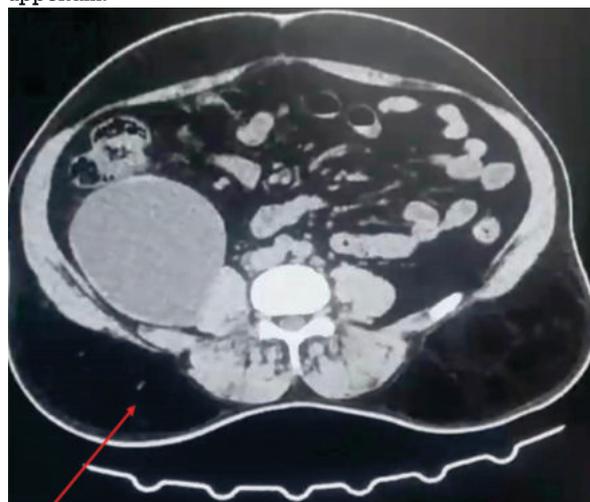


Figure 1: CT Image of Mucocele Appendix



Figure 2 :Intra Operative Picture - Mucocele Appendix

DISCUSSION

The mucocele of the appendix is cystic dilation of the appendix caused by the accumulation of mucus secretion. This process is slow and gradual, with no signs of infection inside the organ. It results from the lumen obstruction in the appendix, which is secondary to the inflammatory or neoplastic proliferation of the appendix mucosa, or of lesions in the caecum, adjacent to the appendiceal ostium. While some articles confirm its prevalence among women³, others demonstrate a higher incidence among men. Mucocele in the appendix may be classified according to the histological characteristics of lumen obstruction.

1. Simple mucocele (inflammatory, obstructive or retention cyst) - degenerative epithelial changes and results in the obstruction and the distension of the appendix. There is no evidence of hyperplasia or mucosal atypia. In hyperplastic mucocele, the appendix dilation occurs due to the hyperplastic growth of the appendix or caecal mucosa, just like hyperplastic polyps in the colon.
2. The Mucinous cystadenoma is an appendix neoplasm with dysplastic epithelium similar to colon adenomatous polyps
3. The Mucinous cystadenocarcinoma presents high grade cellular dysplasia and stromal invasion, besides muscularis mucosae

In both types described, the mucus material contains epithelial adenoma cells with low or high grade of dysplasia. The rupture of the appendix may lead to the dissemination of the epithelium that produces mucins in the abdominal cavity, causing mucinous ascites or pseudomyxoma peritonei.

The clinical flow of the disease does not have a specific picture. It often flows asymptotically. In about 50% of cases it is discovered accidentally during radiologic and endoscopic examinations or at the time of surgery. A patient's clinical symptoms may include pain in the right lower quadrant of the abdomen, palpable abdominal mass, nausea, vomiting, weight loss, gastrointestinal bleeding and signs of intussusception of the intestines. Preoperative diagnosis of appendicular mucocele is very important for the selection of an adequate surgical method to prevent peritoneal dissemination, to prevent intraoperative and postoperative complication, and repeated surgery. USG, computed tomography (CT), and colonoscopy is used for diagnostics. USG is the first-line diagnostic method for patients with acute abdominal pain. USG can be used to differentiate between mucocele and acute appendicitis. In case of acute appendicitis, the outer diameter threshold of the appendix is 6 mm, and 15 mm and more indicates the presence of a mucocele, with 83% sensitivity and 92% specificity. CT is regarded as the most accurate method of diagnostics. CT can be used to discover the signs specific to mucocele with high accuracy: appendix lumen more than 1.3 cm, its cystic dilatation, and wall calcification. One of the cardinal

principles of surgical treatment of this disease is that intact mucoceles do not pose a threat for the patient. If appendicitis perforated and the filling turns up in the peritoneal cavity, there is a high probability that pseudomyxoma peritonei will develop, for which treatment is very problematic and long-term results are quite unsatisfactory. Therefore, the selection of an adequate surgical method is very important. Some surgeons think that open surgery should be favoured against laparoscopy. If the surgery was performed using a laparoscopic method and it appears that there is an appendiceal mucocele, it must be converted into open surgery. This has 2 objectives:

- (1) To perform surgery carefully so the cyst is not ruptured and is not spilled into the peritoneal cavity.
- (2) With an open surgery compared to the laparoscopic method, it is possible to have a fuller inspection, palpation, and direct inspection of the spots in the abdomen where mucinous tumors are most common.

An algorithm for the selection of the type of surgery has been furnished by Dhage-Ivatury and Sugarbaker⁴. It includes several factors:(1) whether or not a mucocele is perforated;(2) whether the base of the appendix (margins of resection) is involved in the process;and (3) whether there are positive lymph nodes of mesoappendix and ileocolic As a result patients may require different operations: appendectomy to the right colectomy, including cytoreductive surgery, heated intraoperative intraperitoneal chemotherapy, early post-operative intraperitoneal chemotherapy. Another protocol has been suggested recently based on intraoperative findings(base), frozen section and histopathology.

Treatment of pseudomyxoma peritonei is variable, both due to the rarity of the disease and to its frequently slow-growing nature. Current treatment strategies range from watchful waiting to extensive cytoreductive surgery alone or with hyper thermic intraoperative peritoneal chemotherapy (HIPEC) or early postoperative intraperitoneal chemotherapy (EPIC)⁵. The prognosis of patients with pseudomyxoma peritonei was very poor, with limited life expectancy and no chances of healing.

CONCLUSION

Appendiceal mucocele is a rare disease and has a clinical picture that resembles acute appendicitis. A correct diagnosis before surgery is very important for the selection of surgical technique to avoid severe intraoperative and postoperative complications. USG, particularly CT, should be used particularly for this purpose. In our opinion, every patient more than 50 years old who arrives at the emergency department with clinical symptoms of acute appendicitis should have a high level of suspicion for Mucocele of Appendix and do further investigations to arrive at proper diagnosis. And in case of dilemma always do a Diagnostic Laparoscopy for confirmation and proceed as needed.

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