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Mucinous Cystadenoma of the Appendix: A Case Report

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***Abstract*—** *Appendiceal mucoceles are rare, often incidentally discovered during appendectomy. This case report describes a 61-year-old woman presenting with right lower quadrant pain whose CT scan suggested atypical appendicitis or mucocele. Laparoscopy confirmed a focal lesion involving the appendix tip and body. Laparoscopic appendectomy with en bloc resection was performed, and histopathology revealed a mucinous cystadenoma. The patient recovered uneventfully. This case highlights the role of laparoscopy in diagnosing and managing appendiceal mucoceles, even when preoperatively suspected. While open surgery is advocated by some, laparoscopic resection can be safe and effective, provided precautions are taken to avoid perforation and peritoneal contamination. Long-term follow-up with CT scanning and tumor markers is recommended to monitor for pseudomyxoma peritonei."*

***Keywords*—** *Appendectomy, Appendix, mucocele, mucinous cystadenoma.*

I. INTRODUCTION

Mucinous Cyst-Adenoma is a rare cause of abdominal pain and is usually discovered incidentally at routine appendectomy as Mucocele of Appendix. Although rare, it is significant, as it has potential of malignancy (adenoma-carcinoma sequence). Surgical excision is the main treatment of this condition, but care must be taken to ensure complete removal. Perforation or rupture of the mucocele risks cellular seeding of the peritoneal cavity. This invariably leads to the development of Pseudomyxoma Peritonei – a potentially life threatening complication where there is cellular contamination of the peritoneal cavity leading to the accumulation of mucoid material within the peritoneal cavity.

II. CASE REPORT

A sixty-one-year-old lady was seen by the attending Surgeon at our hospital complaining of right lower abdominal pain over several months. This pain increased in severity in the five days before presentation. The pain was associated with watery diarrhea, nausea and one episode of vomiting. She had no other symptoms and had not noticed any recent weight loss. The patient had a past history of hypertension.

On examination, she was afebrile there was a tenderness and fullness in the right lower quadrant of the abdomen but no definite mass and no guarding. The bowel sound was normal.

Investigations demonstrated normal cellular blood counts/amylase/kidney function whilst a Computed Tomography (CT) scan showed a 'sausage' shaped, possibly cystic lesion visualized in relation with the lower ascending colon/cecum measuring 11cmx5cm with homogenous internal contents and an incomplete peripheral calcification. The report suggested atypical appendicitis with possibility of a mucocele of the appendix. (Fig. 1)

We performed a laparoscopy to further evaluate the tumor and found that patient had focal disease involving tip and part of body of appendix. There was no evidence of perforation, peritoneal implants, or enlarged mesenteric lymph nodes. The base was free from tumor so laparoscopic appendectomy along with excision of tumor was carried out. The specimen was retrieved successfully in endobag with special care taken to avoid spillage or perforation of the appendix (Fig2). The patient was discharged 2 days after surgery, has been reviewed at six weeks in the clinic and has made an uneventful recovery. Further outpatient review is planned after 6 months for repeat CT scanning.

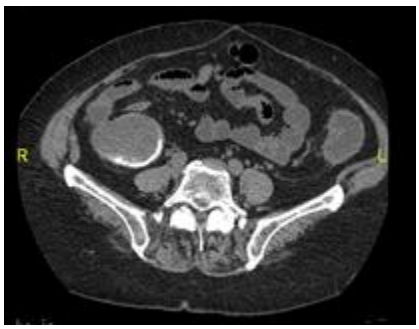

Figure 1: Computed tomography scan showing appendix mucocele.

The Histopathology diagnosis was Mucinous Cystadenoma of the appendix. The patient made a routine post-operative recovery and was discharged home after two days. She has been reviewed in the outpatient clinic at 10 days, and 6 weeks following discharge with complete resolution of her pre-operative symptoms.

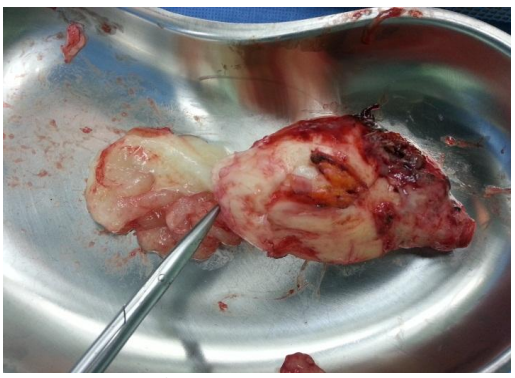

Figure 2: Mucocele of the appendix which opened extra corporal.

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III. Discussion

Mucocele of the appendix is a rare finding at appendicectomy and maybe difficult to diagnose pre-operatively even with modern cross-sectional imaging. The incidence of this pathology is about 0.2-0.3% 1,2. Females are more often affected than males (4:1).

The gross pathological term of mucocele, describes the cystic dilatation of the appendix lumen due to mucous hypersecretion. The Spectrum of disease causing Mucocele includes: - simple retention mucocele due to obstruction of lumen only with normal mucosal epithelium, mucocele with focal or diffuse epithelial hyperplasia, mucocele with epithelium like benign adenoma of colon called cyst-adenoma and Mucocele with malignant cyst adenocarcinoma with epithelial changes similar to adenocarcinoma of colon. More than 50% cases of mucocele are found to have Mucinous Cyst adenoma (14.)

mucocele commonly presents in older age group patients with right iliac fossa pain and usually is diagnosed intra-operatively at appendectomy. Unusual presentations occur with intuscception, hemorrhage and obstruction. However, in 25% cases it remains asymptomatic.

With increasing use and availability of radiological cross-sectional techniques, incidental diagnosis of mucocele has been reported (2, 3). We would recommend CT scanning of the abdomen in equivocal cases of right lower abdominal pain in the elderly with intermediate Alvarado score4.

There remains controversy on the best approach to surgical excision of a mucocele of the appendix. Some authors favour an open technique (6) whilst there are increasing numbers of authors reporting successful excision using laparoscopic techniques (8, 9, 10, 11, 12, 13). There are isolated case reports of complications occurring using this method (7) and care is necessary to avoid peritoneal cellular contamination and the development of Pseudomyxoma Peritonei.

Our case of mucinous cystadenoma of the appendix was the first in 251 cases of appendectomy (0.4% incidence). There was a good indication of the diagnosis from the CT scan which helped planning Surgery.

Laparoscopy allowed intraoperative examination of tumor, and assessment of the extent of disease. Although our case was not involving the base of the appendix, and a simple appendicectomy could be performed, a laparoscopic right hemicolectomy could be performed if the tumour was found to be more extensive. During Laparoscopic surgery for mucocele we would recommend not grasping the mucocele itself with instruments to avoid perforation and peritoneal contamination. Use of an endo bag for removal of the specimen is recommended for similar reasons.

IV. Conclusion

Laparoscopic appendicectomy is rapidly becoming the treatment of choice for appendicitis. Mucocele of the appendix will be encountered occasionally during this procedure and can be safely treated using this technique without resorting to open surgery. Laparoscopic surgery is safe and indicated even when pre-operative diagnosis of the condition has occurred. Long term follows up with CT scanning of the abdomen and tumor marker assay is recommended to identify any Subsequent development pseudomyxoma peritonei.

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