CASE REPORT

Incidentally Discovered Giant Mucocele of the Appendix

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ABSTRACT
Mucocele of the appendix is a rare but well-recognized entity that can mimic several common clinical conditions or present as an incidental radiological or surgical finding at laparotomy. Mucoceles are characterized by distension of the lumen due to accumulation of mucoid substance. They can result from mucosal hyperplasia, mucinous cystadenoma, or mucinous cystadenocarcinoma. If untreated, they may rupture producing the potentially fatal entity Pseudomyxoma peritonei, which is difficult to treat both surgically or medically. Appendectomy is used for simple mucocele or for cystadenoma. Pre-operative diagnosis of a mucocele is helpful at the time of surgical intervention with careful mobilization, particularly of large lesions reducing the possibility of rupture and complications. The authors report a case of a 65-year-old man presenting with peritonitis due to a pre-pyloric gastric perforation also having an incidental giant mucocele of the appendix.

Key Words: Appendix. Mucocele. Pre-pyloric gastric perforation.

INTRODUCTION
Mucocele of the appendix is a rare but well-recognized entity characterized by cystic appendiceal dilatation with collection of mucous. The incidence is between 0.2 and 0.3% of all appendectomies with higher female to male ratio of 4:1 seen in patients usually over 50 years of age.¹,² The etiology is usually inflammatory and can result from mucosal hyperplasia but less commonly may be associated with mucinous cystadenoma and cystadenocarcinoma. Rupture of a tense mucocele may result in the clinical condition of Pseudomyxoma peritonei especially with cystadenocarcinomas. It could lead to multiple mucinous deposits in the peritoneal cavity.³ This report describes the incidental findings of a giant appendiceal mucocele, at laparotomy for a pre-pyloric gastric perforation.

CASE REPORT
A 65 years old male patient was admitted to the Emergency Surgical Department with clinical features of peritonitis. The patient was in shock and was put on ionotropes. Chest X-ray showed gas under the right dome of diaphragm. Blood investigations revealed anemia with deranged renal functions. A clinical diagnosis of perforation peritonitis was made and after stabilization of the patient, an exploratory laparotomy was performed.

At laparotomy there was about 3 liters of bilio-purulent fluid in the peritoneal cavity and a perforation of 1.5 x 1 cm was seen in the pre-pyloric region of the stomach (Figure 1).

On exploration in the lower abdomen, a firm elongated tubular structure caught the attention of the hand. On
visualizing, it was found to be tense elongated appendix of approximately 15 cms with inflamed tip (Figure 2). No lymph nodes were enlarged. The caecum was also normal. After the closure of the gastric perforation with an omental patch, appendectomy was performed. Histopathology revealed inflamed appendiceal mucocele. No atypia was noted. There were no features of cystadenoma or carcinoma.

The patient recovered well apart from minor wound infection and was discharged after ten days. The patient was doing well after one month of discharge.

**DISCUSSION**

Mucocele is a clinical term for the abnormal collection of mucous distending the lumen of the appendix. Rokitansky in 1842 described appendiceal mucocele, which was finally named by Feren in 1876. Ruiz-Tovar *et al.* gave the modern classification including the three groups consisting of focal or diffuse minimal hyperplasia without epithelial atypia, mucinous cystadenoma and mucinous cystadenocarcinoma. Very large lesion can be asymptomatic. In this patient, the mucocele was discovered incidentally at laparotomy and the probable reason for gastric perforation could have been the indiscriminate use of non-steroidal anti-inflammatory drugs for repeated right lower abdominal pain for the past 5 days.

Benign mucoceles are most common accounting for 63 - 84% of cases characterized by marked appendiceal dilatation. Appendectomy alone is the operative procedure of choice.

Mucinous cystadenoma and cystadenocarcinoma are neoplastic mucoceles. The cystadenomas perforate in about 20% instances resulting in mucinous deposits in the periappendiceal region or the peritoneal cavity. Histology of the mucous does not reveal any neoplastic cells and appendectomy alone is curative. On the other hand, mucinous cystadenocarcinomas are rare and spontaneously perforate in 6% of the patients.

The neoplastic cells may penetrate the appendiceal wall and spread beyond the appendix in the form of peritoneal implants. In its fully developed state, the peritoneal cavity becomes distended with adhesive, semi-solid mucin in which neoplastic adenocarcinomatus cells can be found leading to *Pseudomyxoma peritonei*. This dissemination is considered a real metastatic entity; and even retro-peritoneal or pleural implants have been reported. Apart from *Pseudomyxoma peritonei*, other complications include intestinal obstruction, frequently caused by intussusception, or intestinal bleeding. The type of surgical treatment is related to the dimensions and to the histology of the mucocele. Appendectomy is used for simple mucocele or for cystadenoma, when the appendiceal base is intact. Caecal resection is indicated for cystadenoma with a large base, and a right hemi-colectomy is recommended for cystoadenocarcinoma.

Intra-operative histologic examination is not always definitive. An accurate exploration of the abdomen during laparotomy is advised because of the association between the appendiceal mucocele and other tumors, particularly carcinoma of the colon (11 - 20%) and tumors of the ovary. If exploration reveals a ruptured appendiceal mucocele, the primary resection should be accompanied by removal of all gross implants.

Postoperatively, patients with simple or benign neoplastic mucoceles have shown an excellent prognosis with 5-year survival rates of 91 - 100%, even in cases with extension of mucus into the extra-appendiceal spaces. In malignant mucoceles, however, the 5-year survival rate is markedly diminished (20%) due to complications of *Pseudomyxoma peritonei*. 

**REFERENCES**


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