


## Case report

## A Gangrenous Mucocele of Appendix

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Mucocele of the appendix is a rare complication associated with the vermiform appendix, which mimics or complicates appendicitis. Gangrene of the Appendiceal mucocele, following torsion, is a very rare occurrence. It requires surgical excision and, if ruptured, can lead to fatal Pseudomyxoma peritonei. We report a case of a middle aged male patient, who presented with acute appendicitis, and on surgical exploration, was found to have a large, gangrenous mucocele of the appendix, which had undergone torsion.

**Key words:** Vermiform Appendix; Mucocele; Torsion; Appendicitis; Complications**Copyright:** © 2016 Welgama IP *et al.* This is an open access article distributed under the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.**Funding:** None**Competing interest:** None**Received:** 25 August 2015      **Accepted revised version:** 20 February 2016      **Published:** 01 September 2016 **Correspondence:** ip2000k@gmail.com**Cite this article as:** Welgama IP, Kamal KDV. A gangrenous mucocele of appendix. *Anuradhapura Medical Journal* 2016; **10**: 14-16.**DOI:** <http://dx.doi.org/10.4038/amj.v10i1.7547>.

## Introduction

Appendicitis is one of the commonest surgical diseases encountered all over the world, and occurs as a result of an acute inflammation of the Vermiform appendix, lying at the tip of the caecum (1). A mucocele of the appendix is a rare condition with an incidence of about 0.2% to 0.7% of all appendectomies (2). It occurs due to the accumulation of mucoid fluid within the lumen of the appendix, following an obstruction to the drainage of the normal secretion (3). Therefore, with the accumulation of the fluid, the appendix gradually enlarges to a massive size. This is not very painful initially as it is a slow process with minimal inflammation, but with further stretching, it can lead to a right lower abdominal pain. Therefore, the clinical presentation is usually non-specific, with 50% of cases being detected incidentally at surgery (4).

A very rare phenomenon is the torsion of such an enlarged Appendiceal mucocele, leading to its infarction and gangrene. Rupture of this mucocele causes the leakage of its liquefied contents in to the peritoneal cavity, which can lead to fatal Pseudomyxoma peritonei.

## Case presentation

A 52 year old man from the central region of Sri Lanka, presented to the General Surgical unit of Base Hospital, Gampola in 2009, with a history of sudden onset, episodic, right sided lower abdominal pain, progressing for three days and associated with fever, nausea, vomiting and diarrhea. His clinical examination revealed severe right iliac fossa tenderness and guarding with low grade fever, suggestive of a clinical diagnosis of acute appendicitis. This was confirmed by the neutrophil leukocytosis in his full blood count. Urine examination was normal. Ultrasound imaging was not performed as facilities were not available in the institution at the time. Antibiotics were commenced and the patient was prepared for an appendectomy.

On surgical exploration of the abdomen, a large mucocele of the vermiform appendix was found, which had undergone torsion at its neck, leading to its discoloration, suggestive of ischemic gangrene (Figure 1). Appendectomy was performed through a midline incision and no other abnormalities were found within the abdomen. The specimen was sent for histology, and the patient completely recovered within 5 days.

Pathology report confirmed a mucocele of the appendix which had undergone necrosis and gangrene, with no evidence of neoplastic changes.

## Discussion

A mucocele of the appendix can develop secondary to obstruction of the neck of the appendix by either neoplastic or non-neoplastic causes. Usually appendiceal mucoceles are secondary to mucinous cystadenoma (about 63%) followed by mucosal hyperplasia (25%), mucinous cystadenocarcinoma (11%) and retention cysts of the appendix (5).



Figure 1 **Large gangrenous appendix**

Clinical presentation of a mucocele of the appendix varies greatly, with about 23–50% of patients being asymptomatic, with the lesions being discovered incidentally during surgery, radiological evaluations or endoscopic procedures (6). Woodruff et al state that these lesions are almost always discovered during appendectomy, and complicates about 0.3% of all appendectomies (7). Also, according to Sturniolo et al, most mucoceles are diagnosed during an appendectomy, and if such a situation is suspected prior to surgery, thorough investigation with imaging techniques is very important in order to plan the best treatment (8). However, even though a proper preoperative diagnosis is essential, fine needle aspiration of a suspected appendiceal mass should never be performed due to the risk of Pseudomyxoma dissemination (9). The treatment for this condition is surgical evacuation of the mass, and histological confirmation (10).

Several similar cases have been reported from various parts of the world. A very similar case report has been presented in the Pakistan Armed Forces Medical Journal, where a 64 year old male was found to have a gangrenous mucocele of the appendix following torsion (11). Also, another has been reported in 1953 from USA, where they describe a patient who presented with a mucocele of the appendix, complicated by torsion and gangrene (12). The American Journal of Roentgenology reports of a similar case of torsion of mucocele of the appendix, which was diagnosed preoperatively using CT scan imaging (13). Another case report by Tylan Kara et al, describes a case of a middle aged man presenting with abdominal pain and lowered appetite and was found to have Mucinous Cystadenoma on radiological and pathological diagnosis (14). The finding of an appendiceal mucocele should prompt a search for an associated tumor as there is a six-fold increased incidence of colon adenocarcinoma and there may be an association with mucin-secreting tumors of the ovary (15).

## Conclusion

The mucoceles of the appendix is a very rare but important clinical entity surgeons encounter, which needs specific preoperative diagnosis and appropriate surgical management. Post operatively, it is vital that they are followed up with the histology to exclude any malignancy and to ensure complete cure of the patient.

## Consent

Written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review with the Editor-in-Chief of this journal.

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