

## TORSION OF APPENDIX SECONDARY TO MUCOCELE - A CASE REPORT

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### INTRODUCTION

Mucocele of the appendix is a rare entity which is characterized by progressive enlargement of the appendix from the intraluminal accumulation of the mucoid substance [1]. Mucocele may be non-neoplastic or neoplastic [2]. There are four histological types of mucocele; retention cyst, mucosal hyperplasia, cystadenomas and cystadenocarcinoma. It is often asymptomatic and occurs as an incidental surgical finding. Sometimes patients with mucocele can present with confusing symptoms. Preoperative suspicion and diagnosis is important [3, 4]. Ultrasonography and computed tomography are useful diagnostic tools. Several complications such as intussusception and perforation with pseudomyxoma peritonei can occur. Torsion of appendix secondary to mucocele is extremely rare. Only a few cases of torsion of the appendiceal mucocele have been reported in the literature [5]. A case of torsion of appendix secondary to mucocele which was suspected during surgery and later confirmed on histopathological examination is reported.

### CASE REPORT

A 64 years old male was referred to general surgical department as a diagnosed case of acute appendicitis in May 2007. His complaints were pain right iliac fossa for last two days and vomiting. His physical examination revealed marked tenderness and rebound tenderness in right iliac fossa. Blood complete picture revealed leukocytosis. Provisional diagnosis of acute appendicitis was made and surgery was planned. Previous ultrasonographic examination was performed for his urinary complaints. The report was suggestive of diagnosis of enlarged prostate and an incidental finding of dermoid cyst in pelvic cavity (well defined ovoid mass of mixed echogenicity measuring 8.7 x 8.6 x 4.7cm lying in proximity

to the right side of urinary bladder). On exploration, there was a large mucocele of the appendix appearing gangrenous due to torsion. It was markedly distended with a narrow base lying in pelvic cavity. Rotation was anticlockwise and more than 560°. Appendectomy was done. The patient made an uneventful recovery and was discharged on 4th postoperative day. Pathological examination of the specimen confirmed the diagnosis of mucocele of appendix. On gross examination, appendix measured 11cm from base to tip (Figure). Distal portion was grossly distended where the circumference reached to 9 cm as compared to the base where it was 2 cm. Its external surface appeared gangrenous and was dusky brown. Its lumen was filled with thick mucoid material. Microscopic examination revealed appendix lined by columnar epithelium. The mucosa showed extensive ulcerations. The wall was thinned out and showed focal mucoid aggregates. The lumen was dilated and filled with mucous and necrotic material. There was no evidence of malignancy.



Figure: Distended appendix with narrow base

### DISCUSSION

Mucocele of the appendix is the term used for a macroscopically dilated usually thin walled mainly a unilocular cyst (occasionally multilocular) filled with thick tenacious mucous. Mucocele of the appendix is an infrequent entity and is found in only 0.2 - 0.4% of all appendicectomized specimens and 8% of all appendicular tumours [4]. Exact incidence in Pakistan has not been reported. Most cases of mucocele of appendix are clinically

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asymptomatic. However, clinical manifestations include right abdominal pain, abdominal mass or gastrointestinal bleeding. Several complications may be associated with mucocele of the appendix such as intussusception, torsion and in case of perforation, pseudomyxoma peritonei. Payne [5] first described torsion of appendix in 1918. Torsion of appendix secondary to mucocele is extremely rare. Only seven cases of the torsion of appendix secondary to mucocele have been reported in literature [3]. Pre-operative diagnosis can be facilitated by ultrasonography, computed tomography and colonoscopic examination. On ultrasonographic examination, outer diameter threshold for the diagnosis of appendiceal mucocele has been established to be 15mm or more with a sensitivity of 83% and a specificity of 92% [6]. The sonographically cystic mass which is named "onion skin sign" in the right lower quadrant of the abdomen in the presence of a normal ovary is suggestive of the diagnosis. In this case, ultrasonographic examination performed three months earlier revealed a cystic mass in pelvic cavity with suspicion of dermoid cyst as an incidental finding. Computed tomography is considered an effective diagnostic tool for mucocele of appendix which can also determine its relationship with the neighbouring organs. Appendiceal mucocele on computed tomography appears as a cystic mass with enhancing wall nodularity in region of appendix [7]. Colonoscopy is also considered a useful tool for determination of the mucocele in patients with abdominal pain [8]. On colonoscopy an elevation of orifice of appendix is seen and yellowish mucous discharge should be visible from appendiceal lumen. Colonoscopy can also diagnose synchronous or metachronous colon tumor which would be as high as 29% [9]. Treatment of mucocele of appendix is surgical. Pseudomyxoma peritonei is the worst complication which is characterized by peritoneal dissemination caused by iatrogenic or spontaneous rupture of the mucocele. Care should be taken to handle the tissues carefully during the surgery to avoid

rupture of the mucocele. Open surgery is preferred than laparoscopic approach as the incidence of pseudomyxoma peritonei is more in the latter [10]. Simple appendectomy is the choice of surgical treatment in patients with negative resection margins and without perforation. In our case appendectomy was done. Appendix was rotated anticlockwise about 360° which was in agreement with cases reported in literature. No long term follow up is needed for these patients [1, 8]. However, some authors recommend follow-up of all patients, because of association with neoplasms in other locations such as colon and ovary. There is also increased risk of pseudomyxoma peritonei after a long follow up [11].

## CONCLUSION

Although mucocele of the appendix is a rare entity, its pre-operative suspicion and diagnosis should be kept in mind. Appendectomy is the treatment of choice. However, care should be taken during surgery to avoid its rupture, as it may be complicated by pseudomyxoma peritonei.

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