



## APPENDICEAL MUCOCOELE WITH PARTIAL NON ROTATION OF GUT – A RARE CASE REPORT

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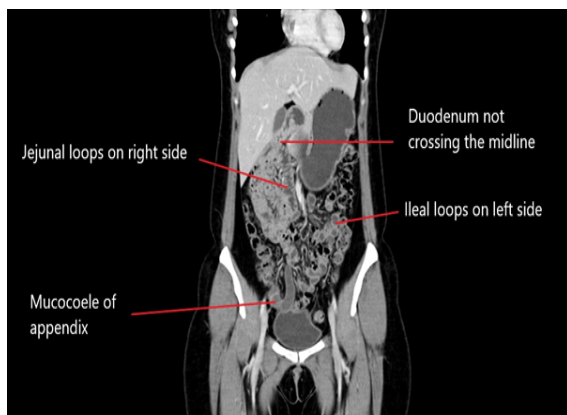
**ABSTRACT** Mucocoele of appendix and partial non-rotation of gut are rare pathological entities, and when they are present together they pose diagnostic and therapeutic difficulties due to atypical clinical presentation. This dilemma of varied clinical presentation can lead to delayed diagnosis and complications, thereby adversely affecting patient management and outcome. We report a 33 year old lady, presenting with intermittent abdominal pain in the periumbilical since 3 months diagnosed to have an appendiceal mucocoele with partial non rotation of gut on imaging. The patient underwent laparoscopic appendectomy and was discharged on post operative day 1 following an uneventful course with no recurrence on 6 months of follow up. Histopathology of the specimen confirmed the diagnosis of mucocoele of appendix with no evidence of malignancy. To our knowledge, this is the first reported case of mucocoele of appendix with partial non rotation of gut managed with minimally invasive laparoscopic approach.

**KEYWORDS :** laparoscopy, mucocoele, appendix, partial non rotation

### CASE DESCRIPTION

A 33 year old female presented with history of intermittent pain in the umbilical region since 3 months which was associated with nausea. The pain was aggravated by meals and relieved by rest. She had no accompanying symptoms like altered bowel or bladder habits, weight loss, anorexia and was passing stools and flatus. The patient had an unremarkable past or family history. On examination, the patient was vitally stable with mild tenderness present in the right iliac fossa, with no lump or palpable organomegaly.

All laboratory investigations were within normal limits. On imaging modalities (ultrasound of abdomen and pelvis, contrast enhanced CT scan), a dilated and fluid filled appendix was noted in the right lower quadrant of abdomen. Incidentally also noted were the ileal loops on left side of abdomen, the jejunal loops on the right side with the duodenum not crossing the midline, suggestive of partial non rotation of gut. The superior mesenteric vein was noted to lie anterior to the superior mesenteric artery instead of the conventional right sided placement of the vein.



**Figure 1 – Coronal Section Of The CECT Of Abdomen And Pelvis Showing Non Rotation Of Gut With Mucocoele Of Appendix**

The patient was planned for an elective laparoscopic appendectomy using the conventional three port placement. Primary peritoneal survey revealed a dilated long tubular appendix present in the right lower abdomen with adhesions to the surrounding bowel loops. Using ultrasonic energy device, the mesoappendix was divided. The base of appendix was noted to be healthy and it was tied off using loop suture and later divided and retrieved in a specimen retrieval bag. Due care was taken to make sure there was no spillage of the contents of the mucocoele in the peritoneal cavity. The finding of partial non rotation of gut was also confirmed with the presence of ileal loops on the left side of abdomen and jejunal loops on the right side.



**Figure 2 – Intra Operative Image Of Appendiceal Mucocoele**



**Figure 3 – Intra Operative Imaging Of Appendiceal Mucocoele After Typing Of Loop Ligation**

Histopathology report confirmed the diagnosis of mucocoele of appendix. Patient was discharged on post operative day 1 and was asymptomatic with no recurrence of symptoms on 6 months of follow up.

### DISCUSSION

Mucocoele of the appendix is an uncommon pathology of the appendix noted in around 8% of all appendiceal neoplasms [1][2][5]. The are most commonly noted in middle aged population with no predilection for either gender. They can be notoriously asymptomatic or can present as right lower abdomen pain. Appendicular mucocoele is a descriptive term coined to describe dilatation of appendix associated with intraluminal collection of mucinous material. [1]

They maybe either benign or malignant and have four histological types - retention cyst, mucosal hyperplasia, mucinous cystadenoma, and mucinous cystadenocarcinoma [4].

On a CT scan, they appear as a well-circumscribed, low-attenuation,

spherical or tubular mass contiguous with the base of the cecum. Colonoscopy usually reveals an elevation of the appendicular orifice; in addition, a yellowish mucous discharge would be visible as well. Colonoscopy is also important for the diagnosis of synchronous or metachronous colon cancers when present.

Both open and laparoscopic approaches for surgery have been described. In cases of a non perforated mucocoele of the appendix, a simple laparoscopic appendectomy is recommended. However, in case of perforation, involvement of the base of appendix, presence of synchronous malignancies or enlarged lymph nodes, right hemicolectomy is recommended.

During the surgery, special care must be taken to avoid intra-operative spillage of the contents of the mucocoele as it predisposes the patient to a high risk of developing the dreaded complication pseudomyxoma peritonei. It is caused due to the seeding of mucin secreting epithelial cells in the peritoneum causing gelatinous ascites [4]. It is associated with an unfavourable prognosis and an unsatisfactory rate of cure.

Intestinal partial non rotation is a congenital abnormality and is usually asymptomatic. However, it is known to cause diagnostic dilemmas in common abdominal pathologies and are usually detected incidentally. In partial non rotation of gut, the duodenum fails to cross the midline, the jejunal loops are located on the right side and the ileal loops on the left side. The SMV is located anterior to the SMA instead of to the right. At present, there are only three reported cases of rotational abnormalities of the gut with coexistent mucocoele of appendix reported by Sato[1], Kawashima[2] and D Yap[5]. They pose diagnostic dilemma and can pre dispose to complications if not dealt with suspicion and care.

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