Original Research Paper

Volume - 13 | Issue - 04 | April - 2023 | PRINT ISSN No. 2249 - 555X | DOI : 10.36106/ijar

General Surgery

MUCOCELE OF THE APPENDIX – A DIAGNOSTIC DILEMMA : A CASE REPORT

Dr. Nazaru Debbarma

Agartala Government Medical College, Department of Surgery, Tripura.

KEYWORDS :

INTRODUCTION :

The mucocele of the appendix was first described in 1842 by Rokitansky [1]. This disease is considered as a rare lesion of the appendix, which is found in 0.3 to 0.7% of the appendectomies [2]. It is characterized by the dilation of the organ lumen with mucus accumulation. Appendix mucocele may come as a consequence of obstructive or inflammatory processes, cystadenomas or cysta denocarcinomas [3]. Besides these causes, other tumor lesions in the appendix or cecum may present as mucocele [4]. Its Main complication is pseudomyxoma peritonei.

Case Report:

A 25-year-old gentleman was referred to the Surgical Outpatient Department. His complain was pain in the periumbilical and right iliac fossa region. The pain has been on and off for the past 9 months. No palpable mass or swelling in the right iliac fossa , however mild tenderness was present in right iliac fossa. Ultrasonography reveals cystic lesion arising from appendix. Open surgery (Laparotomy) was performed. At the time of surgery, a cystic mass of the appendix, 13.5 × 3.5 cm, thinned wall, without perforation was discovered. No discharge was found in the peritoneal cavity. A mucocele of the appendix was suspected. Only appendectomy was performed because no pathologic process was found in the base of the appendix. Histopathologic diagnosis was retention cyst (simple appendiceal mucocele). There was no complication in the postoperative period and patient was discharged in stable condition.

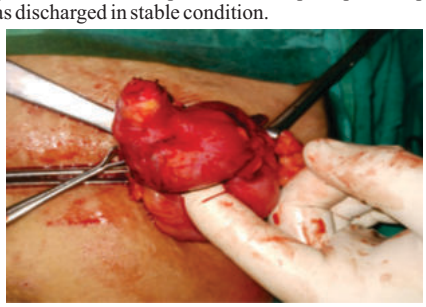
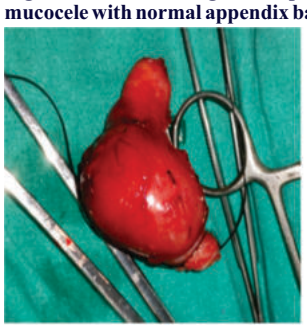


Figure No. 1 showing Intraoperative finding of appendiceal mucocele with normal appendix base



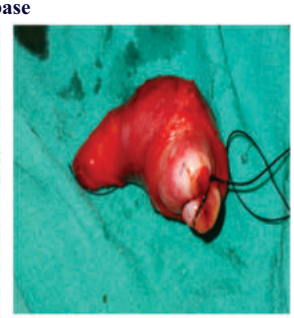


Figure No. 2 **Figure No. 3**

Figure No. 2 & Figure No. 3 showing distended appendix with mucin without perforation

DISCUSSION:

Mucocele of the appendix is a descriptive term for an appendix distended by mucus, secondary to mucinous cystadenoma (63%), mucosal hyperplasia (25%), mucinous cystadenocarcinoma (11%) and retention cyst [1]. Mucocele can also occur due to occlusion of the lumen by endometriosis or carcinoid tumour.

Overall, appendiceal mucocele make up about 0.3%–0.7% of appendix specimen. Clinical presentation may include right lower quadrant pain, change in bowel habits, per rectal bleeding or a palpable mass [2]. Approximately 23–50% of patients are asymptomatic, with the lesions being discovered incidentally during surgery, radiological evaluations or endoscopic procedures [2–4].

In our case, it is likely that the symptoms of right lower quadrant pain and weight loss were not related to the mucocele since this benign mass was not tender on palpation. In addition, the symptoms did not assist in making the pre-operative diagnosis. The preoperative clinical diagnosis of appendiceal mucoceles can therefore be difficult because of this lack of clinical symptomotology.

The initial detection of the lesion may be facilitated by radiological, sonographic or endoscopic means.

On barium enema, there is usually non filling or partial filling of the appendix with contrast. The lesion may be seen as a sharply outlined sub mucosal or extrinsic mass indenting the caecum and laterally displacing it [3].

CT of the abdomen usually shows a cystic well-encapsulated mass sometimes with mural calcification, in the expected location of the appendix. It may be causing extrinsic pressure on the caecal wall without any surrounding inflammatory reaction [3, 5–7].

Ultrasound findings can be variable. Purely cystic lesions with anechoic fluid, hypoechoic masses with fine internal echoes as well as complex hyperechoic masses can be seen depending on the contents [8]. The onion skin sign is considered to be specific for mucocele of the appendix [9].

Colonoscopic findings include the 'volcano sign', the appendiceal orifice seen in the centre of a firm mound covered by normal mucosa or a yellowish, lipoma-like submucosal mass [10].

In the above case report, USS and CT were unable to provide a preoperative diagnosis. The clinical suspicion of gastrointestinal pathology due to lack of pelvic findings, more closely correlated to the operative findings.

In our case, the decision for excision of the appendiceal mucocele was made as a result of diagnostic uncertainty and a need to rule out malignancy.

Surgical excision of mucocele of appendix can either be by laparotomy or laparoscopy. Laparoscopic surgery provides the advantages of good exposure and evaluation of entire abdominal cavity, as well as more rapid recovery with avoidance of a large incision and a better cosmetic outcome. However careful handling of the specimen is recommended as spillage of the contents can lead to pseudomyxoma peritonei.

This can be achieved by atraumatic handling of the appendix and use of impermeable bag for removal of the specimen. Conversion to laparotomy should be considered if the lesion is traumatically grasped or if the tumour clearly extends beyond the appendix or if there is evidence of malignancy such as peritoneal deposits [11].

Involvement of the caecum or adjacent organs is an indication for right hemi-colectomy and thorough exploration of the gastrointestinal tract and ovaries [12].

CONCLUSION:

Appendicular mucocele is a rare disease which may have a clinical picture highly variable and can resemble acute appendicitis [3]. Therefore, this entity must be present in the differential diagnosis of an acute abdominal pain located in right iliac fossa. Presurgical radiologic diagnosis of a mucocele is important and helps determine the surgical approach [2]. However, the final diagnosis of a benign or malignant tumor will be definitely established by the histopathological examination of the surgical piece.

REFERENCES:

1. Rangarajan M., Palanivelu C., Kavalakat A. J., Parthasarathi R. Laparoscopic appendectomy for mucocele of the appendix. Report 8 cases. *Indian J Gastroenterol.* 2006;25(5):256–257.
2. Marudanayagam R., Williams G. T., Rees B. I. Review of the pathological results of 2660 appendectomy specimens. *J Gastroenterol.* 2006;41(8):745–749.
3. Ruiz-Tovar J., Teruel D. G., Gastineires V. M., Dehesa A. S., Quindos P. L., Molina E. M. Mucocele of the appendix. *World J Surg.* 2007;31(3):542–548.
4. Smeenk R. M., van Velthuysen M. L., Verwaal V. J., Zoetmulder F. A. Appendiceal neoplasms and pseudomyxoma peritonei: a population-based study. *Eur J Surg Oncol.* 2008;34(2):196–201.
5. Aho A., Heinonen R., Lauren P. Benign and malignant mucocele of the appendix. *Acta Chir Scand.* 1973;139(4):392–400.
6. Higa E., Rosai J., Pizzimbono C. A., Wise L. Mucosal hyperplasia, mucinous cystadenoma and mucinous cystadenocarcinoma of the appendix. A re-evaluation of appendiceal mucocele. *Cancer.* 1973;32(6):1525–1541.
7. Pickhardt P. J., Levy A. D., Rohrmann C. A., Jr, Kende A. L. Primary neoplasms of the appendix manifesting as acute appendicitis: CT findings with pathologic comparison. *Radiology.* 2002;224(3):775–781.
8. Sugarbaker P. H. Appendiceal Epithelial Neoplasms and Pseudomyxoma Peritonei, a Distinct Clinical Entity with Distinct Treatments. In: Bland K. J., Büchler M. W., Csendes A., Garden O. Y., Saar M. G., Wong J., editors. *General Surgery. Principles and International Practice.* London-Limited: Springer; 2009. pp. 885–893. (eds)
9. Garcia Lozano A., Vazques Tarrago A., Castro Garcia C., Richart Aznar J., Gomez Abril S., Martinez Abad M. Mucocele of the appendix: presentation of 31 cases. *Cir Esp.* 2010;87(2):108–112.
10. Rokitansky C. F. *A Manual of Pathological Anatomy. Vol. 2.* Philadelphia: Blanchard & Lea; 1855.
11. Sugarbaker P. H. Epithelial appendiceal neoplasms. *Cancer J.* 2009;15(3):225–235.
12. Lien W. C., Huang S. P., Chi C. L., Liu K. L., Lin M. T., Lai T. I., et al. Appendiceal outer diameter as an indicator for differentiating appendiceal mucocele from appendicitis. *Am J Emerg Med.* 2006;24(7):801–805.