SAS Journal of Surgery
Abbreviated Key Title: SAS J Surg
ISSN 2454-5104
Journal homepage: https://www.saspublishers.com

OPEN ACCESS

Surgery

Appendicular Mucocele: Report Case

Lazrak Mohamed[1*], Ezzaki Houda[1], Souiki Tarik[1], Ibn Majdoub Hassani Karim[1], Toughrai Imane[1], Mazaz Khalid[1]

[1]Department of Surgery, Hassan II University Hospital, Sidi Mohamed Ben Abdellah University, Fes, Morocco

DOI: 10.36347/sasjs.2022.v08i09.004 | **Received:** 05.07.2022 | **Accepted:** 12.08.2022 | **Published:** 14.09.2022

***Corresponding author:** Lazrak Mohamed
Department of Surgery, Hassan II University Hospital, Sidi Mohamed Ben Abdellah University, Fes, Morocco

Abstract | **Case Report**

It is a rare pathology which consists of a cystic dilation of the lumen of the appendix due to mucous hypersecretion at this level. It is clinically manifested by intermittent pain in the right iliac fossa, more rarely by a complication such as perforation or bleeding. The positive diagnosis is mainly based on the CT scan which shows cystic dilation at the expense of the appendix. The reference treatment remains curative surgery, which is often a right hemicolectomy. We report the case of a 65-year-old patient who consulted us for lower abdominal pain with asthenia, the radiological examination had objectified a typical aspect of mucocele. The treatment consisted of a right hemicolectomy with anastomosis. We noted a good postoperative evolution and the patient was declared discharged on D7 postoperatively.

Keywords: Appendicular Mucocele, cystic dilation, asthenia, postoperative evolution.

INTRODUCTION

Appendicular mucocele is a rare obstructive dilatation of the appendix caused by intraluminal accumulation of mucinous secretions [1]. It is an entity with non-specific symptomatology, and often detected as an incidental finding during surgery [2].

Patients usually present lower abdominal pain, and it's mistaken for acute appendicitis [3].

CASE REPORT

A 65 year-old female presented with dull pain in the right lower abdomen, associated with generalized weakness and nausea since 2 months. Physical and laboratory examination was insignificant, except a mild tenderness over the right iliac fossa. CT scan of abdomen was highly suggestive of an appendicular mucocele.

DISCUSSION

The patient had a vertical midline incision exploratory laparotomy done, and there was a high suspicion of malignancy, that's why a right hemicolectomy with ileotransverse anastomosis was performed. Histopathological examination revealed an appendiceal mucinous neoplasm.

PATIENT AND OBSERVATION

We report a case of a 65-year-old female who presented at the accident and emergency department of Hassan II Hospital, in Fes, Morocco.

She reported a deep dull aching pain in the right iliac fossa that has been progressively becoming worse. She had no associated vomiting or weight loss. The pain was of two months duration and has been in and out of hospital on antibiotics and analgesia.

She wasn't febrile and was hemodynamically stable.

Full blood count, urea, electrolytes, liver function tests were normal. CT scan revealed an appendicecal mucocele

We planned a right hemi-colectomy.

Exploration of the abdomen revealed no liver lesions or lymphadenopathy noted. The length of the mass was 20 cm and the maximum diameter was 6 cm. There was no free fluid in the abdomen, no metastatic processes, no lymphadenopathy and no other malignancies. The pelvic organs were all normal. There was no leak of appendicular contents and the appendix was not adherent to surrounding structures (figure 1).

A right hemicolectomy was performed making sure not to rupture the appendix or cause any leakage of its contents. A stapled functional end-to-end ileo-colic anastomosis was performed.

The patient recovery was uneventful and was discharged day 7 post-operation. She was seen at the outpatient clinic 2 weeks later and had uneventful postoperative course.

Histology results revealed a low-grade appendicular mucinous neoplasm with negative margins and no involved mesenteric lymph nodes. No chemotherapy treatment was done afterwards, and 6 months follow up showed no signs of relapse

DISCUSSION

Clinical presentation of appendicular mucoceles is vague, though, it can be also asymptomatic in a quarter of patients [1]. Usually, patients present with right lower quadrant pain [4]. We can also find palpable masses in 50% of cases [5]; and urinary symptoms are rare. Pre-operative diagnosis of appendicular mucocele is difficult because this condition is rare, and the symptoms are non-specific [6] in our case, it was just an acute pain in the right side of the lower abdomen, with no digestive transit trouble.

Nonetheless, preoperative diagnosis is important for the selection of the surgical procedure to prevent intra- operative complications, especially peritoneal dissemination [7], in our, per operative view after laparotomy revealed a non-perforated mobile tumor that was easy to extract (figure 1).

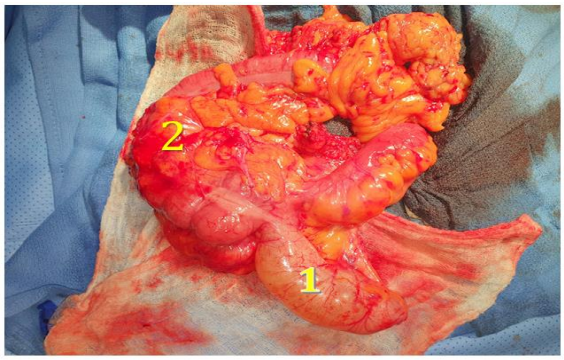

Figure 1: per operative view of the tumor (1) and the right colon (2).

First-line diagnostic is sonographic examination, it can differentiate between benign and malignant mucocele [8]. An appendicular diameter of 15 mm or more has been determined as a threshold for diagnosis of mucocele with a sensitivity of 83% and a specificity of 92% [9]. Computed tomography (CT) scan is important to confirm the diagnosis and to evaluate the extent of the disease [10] in our case we the diagnosis was confirmed with the CT scan (figure 2).

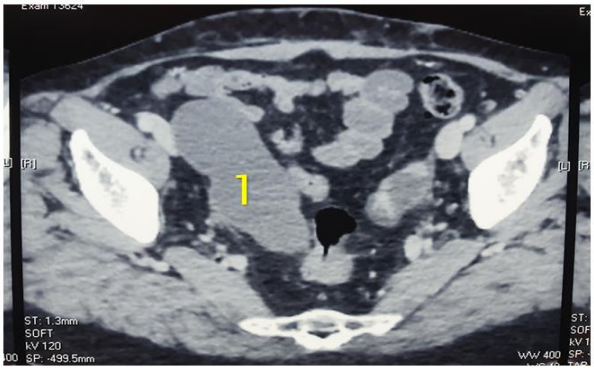

Figure 2: scan view of the tumor (1)

Colonoscopy reveals an elevation of the appendicular orifice. We use it also for the diagnosis of synchronous or metachronous colon cancer when present [11], no preoperative colonoscopy was done in our case.

Conventional surgery is generally preferred to laparoscopic approach as the latter increases the risk of rupture [12], but it is still performed for selected patients [13]. An algorithm for the selection of the type of surgery has been formulated by Dhage-Ivatury and Sugarbaker (figure 3) [14].

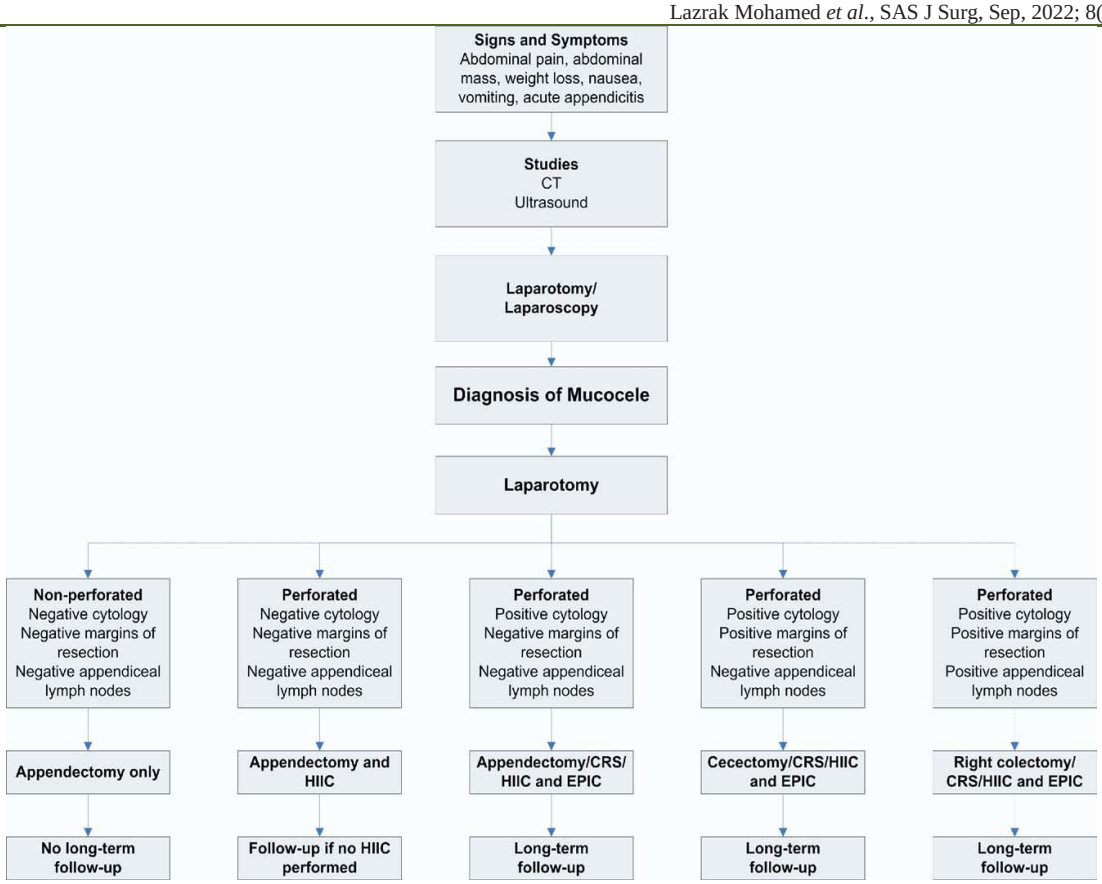

Figure 3: Clinical pathway for treatment of mucocele of the appendix, by Dhage-Ivatury and Sugarbaker CRS, cytoreductive surgery; EPIC, early postoperative intraperitoneal [4, 13]

Simple appendectomy is the choice for patients with benign mucocele as suggested by the presence of a normal caecum and appendicular base and no evidence of perforation [15].

Right hemicolectomy is recommended when malignant mucocele is suspected by the presence of a perforated mucocele, enlarged mesenteric lymph node or a positive cytology [15]. We took the safe choice of a right hemicolectomy and ileo-colic anastomosic to prevent any chance of tumor relapse.

An accurate exploration of the abdomen is advised due to the well-known association between the appendicular mucocele and other mucin-secreting cells cancers, such as colon and ovarian cancers [14].

CONCLUSION

Mucocele of the appendix is a rare disease with vague symptoms. Abdominal US and CT scans are important diagnostic tools, but histopathology is needed for definitive diagnosis. Surgery for benign appendicular mucoceles has an excellent long-term prognosis.

REFERENCES

1. Woodruff, R. (1940). Benign and malignant cystic tumors of the appendix. *Surg Gynecol Obstet*, *71*, 750-755.
2. Gough, D. B., Donohue, J. H., Schutt, A. J., Gonchoroff, N., Goellner, J. R., Wilson, T. O., ... & Van Heerden, J. A. (1994). Pseudomyxoma peritonei. Long-term patient survival with an aggressive regional approach. *Annals of surgery*, *219*(2), 112-119.
3. Misdraji, J., Yantiss, R. K., Graeme-Cook, F. M., Balis, U. J., & Young, R. H. (2003). Appendiceal mucinous neoplasms: a clinicopathologic analysis of 107 cases. *The American journal of surgical pathology*, *27*(8), 1089-1103.
4. Sugarbaker, P. H., & Chang, D. (1999). Results of treatment of 385 patients with peritoneal surface spread of appendiceal malignancy. *Annals of surgical oncology*, *6*(8), 727-731.
5. Lien, W. C., Huang, S. P., Chi, C. L., Liu, K. L., Lin, M. T., Lai, T. I., ... & Wang, H. P. (2006). Appendiceal outer diameter as an indicator for differentiating appendiceal mucocele from appendicitis. *The American journal of emergency medicine*, *24*(7), 801-805.
6. Pickhardt, P. J., Levy, A. D., Rohrmann Jr, C. A., & Kende, A. I. (2003). Primary neoplasms of the appendix: radiologic spectrum of disease with pathologic correlation. *Radiographics*, *23*(3), 645-662.
7. Witkamp, A. J., De Bree, E., Kaag, M. M., Van Slooten, G. W., Van Coevorden, F., & Zoetmulder, F. A. N. (2001). Extensive surgical cytoreduction

and intraoperative hyperthermic intraperitoneal chemotherapy in patients with pseudomyxoma peritonei. *Journal of British Surgery*, *88*(3), 458-463.

8. Pickhardt, P. J., Levy, A. D., Rohrmann Jr, C. A., & Kende, A. I. (2003). Primary neoplasms of the appendix: radiologic spectrum of disease with pathologic correlation. *Radiographics*, *23*(3), 645-662.
9. Lien, W. C., Huang, S. P., Chi, C. L., Liu, K. L., Lin, M. T., Lai, T. I., ... & Wang, H. P. (2006). Appendiceal outer diameter as an indicator for differentiating appendiceal mucocele from appendicitis. *The American journal of emergency medicine*, *24*(7), 801-805.
10. Isaacs, K. L., & Warshauer, D. M. (1992). Mucocele of the appendix: computed tomographic, endoscopic, and pathologic correlation. *American Journal of Gastroenterology (Springer Nature)*, *87*(6), 787-789.
11. Zanati, S. A., Martin, J. A., Baker, J. P., Streutker, C. J., & Marcon, N. E. (2005). Colonoscopic diagnosis of mucocele of the appendix. *Gastrointestinal endoscopy*, *62*(3), 452-456.
12. Lau, H., Yuen, W. K., Loong, F., & Lee, F. (2002). Laparoscopic resection of an appendiceal mucocele. *Surgical Laparoscopy Endoscopy & Percutaneous Techniques*, *12*(5), 367-370.
13. Sugarbaker, P. H. (2009). 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. (eds.) General Surgery. Principles and International Practice. *London-Limited: Springer*, 885-893.
14. Dhage-Ivatury, S., & Sugarbaker, P. H. (2006). Update on the surgical approach to mucocele of the appendix. *Journal of the American College of Surgeons*, *202*(4), 680-684.
15. Gonzalez-Moreno, S., & Sugarbaker, P. H. (2004). Right hemicolectomy does not confer a survival advantage in patients with mucinous carcinoma of the appendix and peritoneal seeding. *Journal of British Surgery*, *91*(3), 304-311.