

Case Report

Not peer-reviewed version

Mucocele of the Appendix Discovered Golestan Hospital of Ahwaz: A Case Report

Milad Arabi , [Hossein Ghaedamini](#) * , Amir Ashrafi , Mohammadsina Salimi Kouchi , Mostafa Pakmehr

Posted Date: 30 June 2023

doi: 10.20944/preprints202306.2196.v1

Keywords: Mucocele, appendicitis, Iran



Preprints.org is a free multidiscipline platform providing preprint service that is dedicated to making early versions of research outputs permanently available and citable. Preprints posted at Preprints.org appear in Web of Science, Crossref, Google Scholar, Scilit, Europe PMC.

Copyright: 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.

Disclaimer/Publisher's Note: The statements, opinions, and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions, or products referred to in the content.

Mucocele of the Appendix Discovered Golestan Hospital of Ahwaz: A Case Report

Milad Arabi¹, Hossein Ghaedamini^{*2}, Amir Ashrafi³, Mohammadsina Salimi Kouchi⁴, Mostafa Pakmehr⁵

- 1- Associated professor of General Surgery, General Surgery, School of Medicine, Abadan University of Medical Sciences, Abadan, I.R.Iran. Email: mimalef83@gmail.com. Phone: 09122370272, Orcid: 0000-0003-3724-6752
- 2- Clinical Assistant of General Surgery, Department of General Surgery, School of Medicine, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, I.R.Iran. Email: Ghaedaminih@gmail.com, Phone: 09133886532. Orcid: 0000-0002-5152-4109
- 3- Assistant Professor of Laparoscopic Surgery. Department of General Surgery, School of Medicine, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, I.R.Iran. Email: ashrafi-a@ajums.ac.ir, Phone: 06133204539
- 4- Clinical Assistant of General Surgery, Department of General Surgery, School of Medicine, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, I.R.Iran. Email: drsinasalimi@gmail.com, Phone: 06133204539
- 5- Clinical Assistant of General Surgery, Department of General Surgery, School of Medicine, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, I.R.Iran. Email: Dr mosatafapakmehr23@gmail.com, Phone: 06133204539

*Correspondence: Hossein Ghaedamini

Affiliation: Department of General Surgery, School of Medicine, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, I.R.Iran, Email: Ghaedaminih@gmail.com, Orcid: 0000-0002-5152-4109, Phone: 09133886532

Introduction

One rare cause of appendicitis is mucocele which may have a neoplastic or non-neoplastic source. Simple appendectomy or right hemicolectomy may be necessary, sometimes medication may be prescribed to manage symptoms. In this study, we reported a rare case with Mucocele of the Appendix managed by antibiotic therapy and simple appendectomy.

Case Presentation

A 60-year-old female with a seven-month history of right lower quadrant pain. A physical exam showed tenderness and rebound tenderness in the McBurney's point. In her CT-Scan tubular mass measured 105 * 37 mm in RLQ is noted suggested for mucocele appendicitis. Appendectomy performed through McBurney incision and the pathology was mucocele of the appendix with mucin-secreting mucosal hyperplasia.

Conclusion

Malignancy of the appendix is extremely rare. Appendiceal tumors have a low prevalence; But due to the nature of these tumors, which can also be malignant, they should be given importance and careful follow-up is mandatory. As the Surgical community continues to learn more about this condition, it is essential that patients remain informed and proactive about this situation. With timely diagnosis and treatment, mucocele appendix can be successfully managed and treated.

Keywords: Mucocele, appendicitis, Iran



1. Introduction

In recent weeks, general surgeons have been closely monitoring a concerning trend in the medical field - an increase in the diagnosis of mucocele appendix cases [1]. A mucocele appendix is a condition that occurs when the appendix becomes enlarged due to a buildup of mucus in the organ. While this condition is rare, it can be potentially life-threatening if left untreated [1].

Mucocele appendix is a relatively uncommon condition, but it is one that we are seeing more frequently. We believe that the increase in cases may be due to the growing use of advanced imaging techniques, which allows us to diagnose the condition more accurately [2].

Symptoms of a mucocele appendix can range from mild discomfort to severe pain in the abdomen. In some cases, patients may experience nausea, vomiting, diarrhea, and fever. If left untreated, patients may develop serious complications such as peritonitis, which is inflammation of the lining of the abdomen [3].

While the exact cause of a mucocele appendix is not understood, general surgeons believe that it is related to inflammation or obstruction of the appendix. Treatment options for a mucocele appendix can vary, depending on the severity of the case [4]. Surgery from simple appendectomy to right hemicolectomy may be necessary, or medication may be prescribed to manage symptoms [5]. In this study, we reported a rare case with mucocele of the appendix in Golestan Hospital of Ahwaz.

2. Case Presentation

A 60-year-old female with a seven-month history of right lower quadrant pain aggravated in the last two weeks presented to the surgery emergency department of Golestan Hospital of Ahwaz. The patient mentioned weakness, fatigue, and decreased appetite from three months ago but didn't say any history of nausea, vomiting, or weight loss. She was afebrile at admission. The past medical history, past surgical history, family history, drug history and habitual history were negative. A physical exam showed tenderness and rebound tenderness in the RLQ (McBurney's point), but Rovsing's sign was negative. Other clinical examinations were normal. The patient's WBC count was 13400 (Neutrophil=82 %), Hemoglobin= 12.3, and had normal urine analysis. In her medical records (Abdomen CT-Scan with and without IV contrast), fluid signal tubular mass measured 105 * 37 mm in RLQ is noted suggested for mucocele appendicitis (Figure 1). After admission, she became NPO (Nothing by Mouth), and after antibiotic therapy (Ceftriaxone and metronidazole IV) and hydration (1/3, 2/3, 1/3-2/3 intravenous fluid) and pack cell reservation she became a candidate for surgical management. Appendectomy was performed through McBurney incision and the base of the appendix was free, no lymphadenopathy was seen (Figure 2).

There was no postoperative side effect. Two days later the patient was discharged and after follow-up, the pathology was mucocele of the appendix with mucin-secreting mucosal hyperplasia.

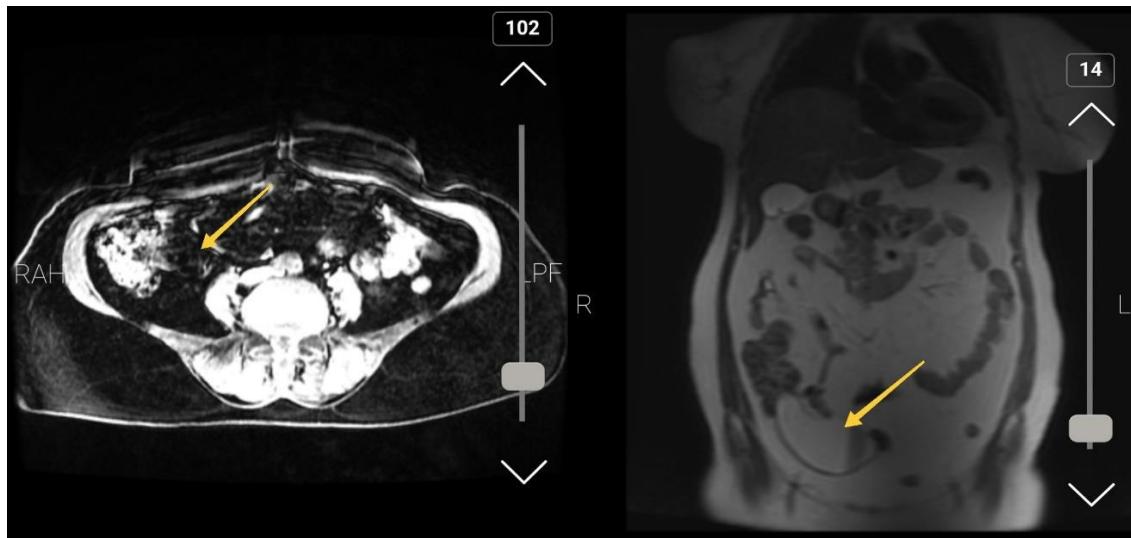


Figure 1. Sagittal and Coronal view of the abdomen CT-Scan.



Figure 2. Dilated and fluid filled appendix specimen after appendicectomy.

3. Discussion

We were surprised to find this case in Golestan Hospital, which is the trauma center in the southwest of the country. The appendiceal mucocele describes a mucus-filled appendix that could be neoplastic or nonneoplastic pathologies (mucosal hyperplasia, simple cysts, mucinous cystadenomas, mucinous cystadenocarcinoma) [6].

Appendiceal mucocele is commonly seen after fifth decade that is similar to result of our study.

The typical form is incidental; however, presentation with appendicitis signs and symptoms occurs in more than 30 % of cases [7]. The case of our study had RLQ pain but it wasn't acute. From Alvarado criteria, our patient had RLQ tenderness (2 Score), Rebound tenderness (1 Score), Fever of more than 99.1 degrees of Fahrenheit (1 Score), and Leukocytosis >10,000 (1 Score).

On imaging findings for the neoplastic process, we expect round-encapsulated cystic mass with irregular walls and soft tissue thickening that is similar to our study that tubular mass measured 105 * 37 mm.

Careful imaging for the presence of ascites, peritoneal disease, and hepatic surface scalloping is important in the initial evaluation [8].

All people over 50 years of age with right lower quadrant pain should undergo a CT scan of the abdomen (Like our patients). With colonoscopy, an orifice of the appendix can be elevated, and yellowish mucous secretions can be seen [9].

In addition, synchronous and metachronous tumors can be identified. A reliable diagnosis based on the combination of imaging and surgical excision. In our study, the imaging finding was adapted to surgical findings. Avoidance of mucocele rupture is important during surgery because the intraperitoneal spread of neoplastic cells and caused pseudomyxoma peritonei [10].

The certain treatment of mucocele is surgery, if it has benign causes, a simple appendectomy (McBurney incision) is enough that is similar to our study, but for the treatment of adenocarcinoma cyst, a right hemicolectomy is recommended [11].

Colorectal, ovarian, and endometrial cancers can coexist in the setting of appendiceal mucoceles, and careful examination of intra-abdominal structures. In our patient, the mucocele was not perforated (no secretion into the peritoneal cavity), there was no pathological process at the base of the appendix (negative resection margin), and regional lymph nodes were negative [12]. Therefore, only appendectomy was performed, which is sufficient surgery in such a case.

4. Conclusion

An appendiceal mucocele is a rarely. Appendiceal tumors have a low prevalence; But due to the nature of these tumors, which can also be malignant, they should be given importance and careful follow-up is mandatory. Correct diagnosis is necessary to prevent complications during and after the operation. As the surgical community continues to learn more about this condition, it is essential that patients remain informed and proactive about this situation. With timely diagnosis and treatment, mucocele appendix can be successfully managed and treated.

Funding

No Funding

Conflicts of Interest

The authors declared no conflict of interest

Acknowledgement

We thank for patient for her consent to publish the case report. The authors would like to give a special thank you to the colleagues at Golestan Hospital, Joundishapour faculty of Medical Sciences, for his guidance and encouragement.

References

- 1- Singh MP. A general overview of mucocele of appendix. *Journal of Family Medicine and Primary Care*. 2020 Dec;9(12):5867.
- 2- Vyas J, Badgurjar M, Saxena P, Parihar S, Thakor P. Prudent planning in management of mucocele of appendix. *International Journal of Surgery Case Reports*. 2021 Apr 1;81:105766.
- 3- Hassan Y, Wani IA, Farooq SI. Mucocele of appendix: A rare cause of surgical abdomen. *Medical Journal of Babylon*. 2022 Jan 1;19(1):89.
- 4- Knol ME, de Leede EM, van Beurden A. Torsion of a mucocele of the veriform appendix: report of a case. *Journal of Surgical Case Reports*. 2020 Nov;2020(11):rjaa442.
- 5- Jelev G, Vassilev I, Usheva S, Yanev T, Sedloev T. A case of a mucocele of the appendix—A diagnostic and therapeutic dilemma. *International Journal of Surgery Case Reports*. 2023 Apr 1;105:108082.
- 6- Derbal S, Klapczynski C, Charissoux A, Durand Fontanier S, Taibi A. Management of mucocele of the appendix with peritoneal dissemination in pregnant women: a case report and literature review. *Acta Chirurgica Belgica*. 2021 Jul 27:1-7.
- 7- Gayathre SP, Rajeswaran T. Mucocele of appendix unmasking appendiceal neoplasm. *International Surgery Journal*. 2023 Mar 31;10(4):766-9.
- 8- Aggarwal N, Bhargava A. Appendiceal mucocele secondary to torsion in an asymptomatic patient. *Journal of Surgical Case Reports*. 2019 Aug;2019(8):rjz241.
- 9- Daspin D, Khalkho VM, Gnanaprakasam F, Krishnaswami M. Mucocele of Appendix-A Detailed Case Report. *Journal of Evolution of Medical and Dental Sciences*. 2019 Oct 21;8(42):3182-5.
- 10- Jelev G, Vassilev I, Usheva S, Yanev T, Sedloev T. A case of a mucocele of the appendix—A diagnostic and therapeutic dilemma. *International Journal of Surgery Case Reports*. 2023 Apr 1;105:108082.
- 11- Khan A, AlSubaie RS, Saleh AA, Khan IV A, AlSubaie R. Mucocele of the Appendix: A Case Report and Review of Literature. *Cureus*. 2023 Jun 9;15(6).