IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 21, Issue 8 Ser.7 (August. 2022), PP 39-42
www.iosrjournals.org

Non-resolving Appendicular Lump can be anAppendiceal Mucinous Neoplasm: A Case Report.

1. Prof. M. B. Sharma
Professor of General Surgery
Regional Institute of Medical Sciences
Imphal, Manipur. 795004.

2. Dr. Hage Nobin (Corresponding author)
Post-graduate Trainee in General Surgery (III)
Regional Institute of Medical Sciences
Imphal, Manipur. 795004.

3. Dr.JardeKarlo
Post-graduate Trainee in General Surgery (III)
Regional Institute of Medical Sciences
Imphal, Manipur. 795004

4. Dr. Sherry RinzinPenchungpa
Post-graduate Trainee in General Surgery (III)
Regional Institute of Medical Sciences
Imphal, Manipur. 795004

5. Dr.TageRiku
Post-graduate Trainee in General Surgery (I)
Regional Institute of Medical Sciences
Imphal, Manipur. 795004

Abstract
Low grade appendiceal mucinous neoplasm (LAMN) is a rare malignancy which are mostly incidentally diagnosed after appendectomy. Unspecific ways of presentation makes it more difficult to diagnose it pre-operatively. We present here a case of 35 years old male who presented clinically as appendicular lump not resolving completely; another unusual way of its presentation.

Keywords: *Low grade appendiceal mucinous neoplasm, LAMN, Pseudomyxomaperitonei, PMP, appendicular lump, acute appendicitis, HIPEC, Non-resolving appendicular lump.*

Date of Submission: 06-08-2022 Date of Acceptance: 21-08-2022

I. INTRODUCTION

Low-grade appendiceal mucinous neoplasm (LAMN) is a rare malignancy accounting for 1% of gastrointestinal neoplasm and is found in <0.3% of appendectomy specimens [1]. Majority of the cases are incidental findings of appendectomy specimen done for acute appendicitis or appendicular lump. LAMNs are diverse, poorly understood and are classified as colonic type, mucinous adenocarcinoma, goblet cell adenocarcinoma or neuroendocrine carcinoma[2].65% of malignant appendicealtumors are of neuroendocrine origin [3].Although there are pathological classifications, surgical resection is the accepted treatment modality for each histological type to prevent the development of pseudomyxomaperitonei (PMP) that is associated with a high mortality rate[4-6]. LAMNs are associated with diverticula, herniations, dissections, and rupture [7]. Seeding into the peritoneum occurs in the late stage of the disease which causes pseudomyxomaperitonei (PMP), most feared complication of this neoplasm.

Here we will present a case of LAMN who presented initially as non-resolving appendicular lump; yet another way of AMNs atypical presentation.

II. PRESENTATION OF THE CASE

Case is a 35 years old male who presented to Surgery OPDfor pain in right lower abdomen (on & off) for last 02 months and burning sensation of epigastrium for last 02 weeks. There was no other associated symptoms except for nausea and loss of appetite. He had history of similar pain 02 months ago, for which he was admitted and treated in the line of appendicular lump.

On examination, vitals were unremarkable.

Per-abdominal examination findings were, soft with no distension and a vague lump of approximately 05 x 04 cm in right iliac fossa, which was tender on palpation with local guarding and rebound tenderness.

Blood investigations were unremarkable.

Transabdominal ultrasonography was suggestive of appendicular abscess with perforation & a left renal calculus.

Chest/Abdominal X-Rays were negative for pneumoperitoneum.

He was admitted in male surgery ward and Ocshner-scherren regime initiated.Gradually he showed improvement in terms of settling pain and decreased lump size after 10 days of therapy. Vague lump later turned into discrete lump of approximately 02 x 02 cm which was palpable per abdominally and non-tender.

Repeat transabdominal ultrasonography showed 08 mm appendicular diameter.

Open appendectomy under spinal anaesthesia was planned and executed. Intraoperative findings were a firm lump of 02 x 02 cm in middle one-third of appendix and appendicular tip adhesion with omentum. Other findings were unremarkable. A 02 cm margin of mesoappendix was also excised along with appendix. Intra-operative findings were suggestive of appendicular fecolith.

Histopathological examination of the specimen revealed Low-grade Appendiceal Mucinous Neoplasm (LAMN), ${}_{p}$TNM: ${}_{p}T_{4a}N_0M_0$(Stage IIB, AJCC 8th Edition).

Histological grade was G1 and well differentiated. No lympho-vascular and peri-neuron invasion. Proximal margin was free of tumor with a distance of 2.7 cm from LAMN and mesenteric margin was also free of tumor with a distance of 1.8 cm from LAMN. Additional finding was a diverticula at distal appendix with greatest dimension of 0.5 cm.

Looking at his intraoperative and histopathological findings, we considered that simple appendectomy alone would suffice his treatment.

Postoperatively he recovered well and was discharged on 04th post-operative day.

He came for follow up after 03 weeks of discharge. He was doing well without any signs of complications till then. He was suggested for regular follow ups.

Figure 1.

Cut sections of appendix specimen.

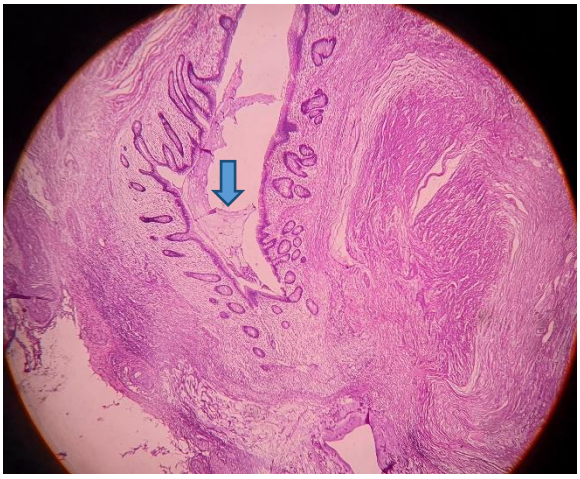

Figure 2.

Appendiceal mucosa lined by multi-layered dysplastic epithelium which are arranged in indulating pattern, few in villiform pattern and some with flattened epithelium. The submucosa shows marked fibrosis. Acellular mucin is seen in appendiceal lumen (blue arrow), mucosa and also seen dissecting into the appendicealwall.

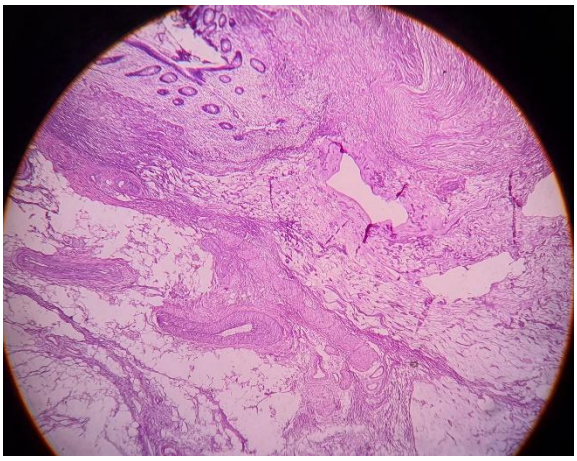

Figure 3.

Acellular mucin dissecting into appendiceal wall reaching upto the serosa with neovascularization and inflammatory infiltrates surrounding it.

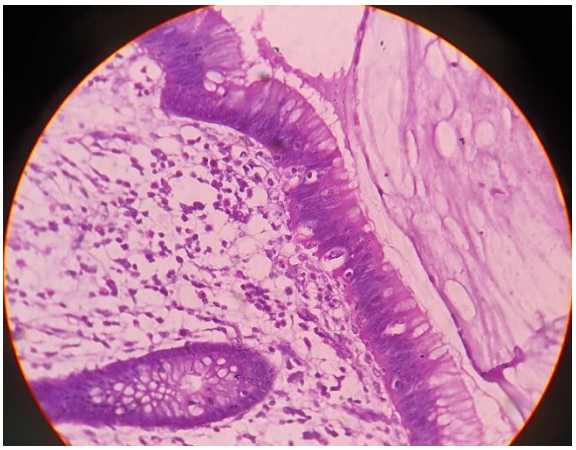

Figure 4.

Dysplastic tumor cells are tall columnar with basally located hyperchromatic nuclei with inconspicuous nucleoli and have abundant apical mucin filled clear cytoplasm. Submucosa shows marked fibrosis.

III. DISCUSSION

LAMNs are rare gastrointestinal malignancy which are often encountered clinically with misdiagnosis of acute appendicitis. Right iliac fossa pain is almost always a suspicion for acute appendicitis in a clinician's mind and in addition, unspecific way of LAMNs presentation makes it more difficult to diagnose pre-operatively. Complications of LAMNs are intussusception, ureteral obstruction, volvulus, intestinal obstruction, rupture, and PMP [1].

Elevatedtumor markers viz. CEA, Ca 19-9, and Ca-125 may be detected in 56.1-67.1% of patients with LAMN [8].

Ultrasonography, CT scan and MRI have only been shown to identify up to 29% of adenomas prior to surgical intervention [9].

LAMNs less than two centimeters (cm) are rarely malignant and are classified as benign simple or retention mucoceles. Masses larger than 6 cm present with a higher risk of malignant cells, a higher risk of appendiceal perforation, and development of PMP [10].

Surgical resection is the accepted treatment modality for each histological type to prevent the development of pseudomyxomaperitonei (PMP) but with discrepancies in extent of resection.A simple appendectomy should suffice in case of intact mucocele away from appendicular base with no lymph node involvement but in cases of adjacent organ seeding, CRS with HIPEC is recommended [11]. There are also controversies regarding better method of resection (laparoscopic versus laparotomy), adjuvant chemotherapy, choice of investigation and follow up duration. Care must always be taken to avoid seeding of malignant cells into peritoneum to avoid pseudomyxomaperitonei (PMP).

We feel that laparoscopic is a better method than open appendectomy in the sense that the prior has advantage of better intraabdominal view than the latter to look for any other suspicious findings.

We also feel that taking peritoneal lavage fluid foranalysis would definitely add to advantage and help decide post-operative requirement of hyperthermic intraperitoneal chemotherapy (HIPEC).

IV. CONCLUSION

Due to rare nature of AMNs we still lack definite treatment protocol. Pre-operative diagnosis is difficult due to its diversepresentation and overwhelming cases of appendicitis in emergency room. First thing that comes in a clinician's mind of right iliac fossa pain is "Acute Appendicitis". AMNs should always be in differential diagnosis in cases with atypical presentations like in our case; an appendicular lump which refuses to resolve completely.

INFORMED WRITTEN CONSENT:
Informed written consent has been obtained from the patient and ready for reference whenever sought.
CONSENT TO PARTICIPATE
Consent has been obtained from the patient for participation.
CONSENT FOR PUBLICATION
Patient has been informed & consent taken for publication.
AVAILABILITY OF DATA & MATERIAL
Data & materials are available in the MRD section of hospital which is available for reference with permissions from the officer in charge of concerned section.
CODE AVAILABILITY
Not applicable.
SOURCE OF FUNDING
The author(s) received no financial support for the research, authorship, or publication of this article.

COMPETING INTEREST
Author(s) declares that they have no competing interests.

REFERENCES

[1]. Ramaswamy V. Pathology of Mucinous AppendicealTumors and PseudomyxomaPeritonei. Indian J SurgOncol. 2016 Jun;7(2):258-67.
[2]. Kelly KJ. Management of Appendix Cancer. Clin Colon Rectal Surg. 2015 Dec;28(4):247-55.
[3]. McCusker ME, Coté TR, Clegg LX, Sobin LH. Primary malignant neoplasms of the appendix: a population-based study from the surveillance, epidemiology and end-results program, 1973-1998. Cancer. 2002 Jun 15;94(12):3307-12.
[4]. García Lozano A, Vázquez Tarrago A, Castro García C, Richart Aznar J, Gómez Abril S, Martínez Abad M. Mucoceleapendicular: presentación de 31 casos [Mucocele of the appendix: Presentation of 31 cases]. Cir Esp. 2010 Feb;87(2):108-12.
[5]. Ruiz-Tovar J, Teruel DG, Castiñeiras VM, Dehesa AS, Quindós PL, Molina EM. Mucocele of the appendix. World J Surg. 2007 Mar;31(3):542-8.
[6]. Basak F, Hasbahceci M, Yucel M, Sisik A, Acar A, Kilic A, Su Dur MS. Does it matter if it is appendix mucocele instead of appendicitis? Case series and brief review of literature. J Cancer Res Ther. 2018 Oct-Dec;14(6):1355-1360.
[7]. Misdraji J, Young RH. Primary epithelial neoplasms and other epithelial lesions of the appendix (excluding carcinoid tumors). InSeminars in diagnostic pathology 2004 May 1; 21(2): 120-133.
[8]. Gonzalez HH, Herard K, Mijares MC. A Rare Case of Low-grade Appendiceal Mucinous Neoplasm: A Case Report. Cureus. 2019 Jan 29;11(1):e3980.
[9]. Montes O, Andrade AM, Perez G, et al. Giant appendicular mucinous cystoadenoma case report and review of the literature. Arch ClinGastroenterol. 2016; 2: 001-003.
[10]. Padmanaban V, Morano WF, Gleeson E, et al. Incidentally discovered low-grade appendiceal mucinous neoplasm: a precursor to pseudomyxomaperitonei. Clinical Case Reports. 2016 Dec;4(12):1112-1116.
[11]. Dhage-Ivatury S, Sugarbaker PH. Update on the surgical approach to mucocele of the appendix. J Am CollSurg 2006; 202: 680-684.