

Appendiceal diverticulitis mimicking as acute appendicitis : a case of acute abdomen

1. Dr Rajnish meena , ms , consultant, apex hospital ,jaipur
 2. DR Manish kheriwal, ms , consultant , apex hospital ,jaipur
 3. Dr Manmohan vyas , ms , consultant , apex hospital , jaipur
 4. Dr Sachin jhaver, ms, mrcs, consultant , apex hospital , jaipur
- Corresponding auther – Dr rajnish meena . ms , consultant , apex hospital , jaipur

Abstract

Appendiceal diverticulitis is a rare pathology that mimics acute appendicitis and should be overlooked because increasing risk of complications, such as perforation and neoplasm .A 35-year male presented with right lower quadrant pain associated with vomiting ,fever and leukocytosis (10.5×10^9 ; neutrophils 80%). Sonography was suggestive of acute appendicitis .After conforming the diagnosis of acute appendicitis. Patient was posted for laparoscopic appendectomy. The removed specimen had multiple diverticula on antimesentric border with appendicitis and thickened mesentery. The postoperative course was uneventful and discharged on pod 2.The histological examination showed acute inflammation of appendiceal pseudodiverticula with diverticulitis and appendicitis. Appeniceal diverticulosis is a rare entity which often diagnosed during performing appendectomy for appendicitis and histopathological examination. one should take care of appendiceal diverticula in case of appendicitis to avoid risk of perforation and careful retrival of specimen in beg during surgery to avoid contamination and seedling of neoplasm.

Keywords: Appendiceal diverticula, diverticulitis, laparoscopy

Date of Submission: 18-07-2022

Date of Acceptance: 02-08-2022

I. Introduction

Appendiceal diverticulosis was first described by Kelynack in 1893 and Acute appendiceal diverticulitis is a rare cause of acute abdomen, with an incidence of 0.004 % to 2.1 % in patients undergoing surgery for acute appendicitis, which is why it has been considered a variant of the latter.(1) Appendiceal diverticulitis occurs due to the inflammation of an appendiceal diverticulum . Its diagnosis may be delayed, and its occurrence carries an increased risk of significant complications, including perforation and a higher risk of mortality . Progression of diverticulosis to diverticulitis may occur following a partial or complete obstruction of the appendix lumen. This obstruction may be due to inflammation, mucosal swelling, fecoliths, torsion, or fibrous strictures .(11) Appendiceal diverticula are frequently associated with higher risk of neoplasm especially carcinoid tumors and mucinous adenomas .(7,8)

We present a case of appendiceal diverticulitis presented as a case of acute recurrent appendicitis.

II. Case Report

A 35-year-old male presented with right lower quadrant pain associated with vomiting and fever since last 2 days. Patient also had history of acute appendicitis 2years back which was managed conservatively. On clinical examination abdominal tenderness was present in right iliac fossa . blood report revealed moderate leukocytosis (10.7×10^9 ; neutrophils 78 %).Sonogargpy was suggestive of Acute appendicitis . pt was posted for laparoscopic appendectomy(3 port technique) .The specimen was retrived in endobeg through umblical port .the removed specimen was 4.5 cm long with inflamed appendix and multiple diverticula over antimesentric border of appendix, mesentry is also thickened. (Fig. 1)



Fig. 1- showing inflamed appendix with multiple inflamed diverticula on anti mesenteric border with thickened mesentery

The postoperative course was uneventful and discharged on post op day 2 in optimal clinical conditions. The histological examination showed acute inflammation of appendiceal pseudodiverticula with diverticulitis and acute appendicitis. (Fig. 2)

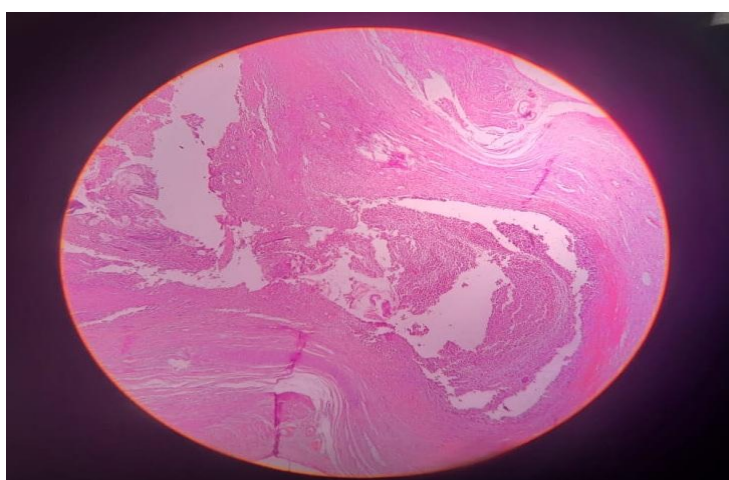


Fig. 2 – acute appendicitis with diverticulitis

III. Discussion

Appendiceal diverticula is a rare condition. incidence is very variable in literature with Abdullgaffar et al. reporting 0,014% (3), Sohn et al., 3.7% (5) and Collins 1,4% (evaluating 50,000 autopsies and sugical specimen studies) (4).

Appendiceal diverticula can be classified into two histological types: acquired (pseudodiverticula, more common, located at distal 1/3, mesenteric border) and congenital (true diverticula, located on antimesentric border, can be associated with other diseases as Patau syndrome. (trisomy 13) (1)

The etiology is unknown. Risk factors are: male gender, adult age (>30 years), Hirschprung's disease and cystic fibrosis . The acquired form is the prevalent and has no association with colon diverticula .(2) In our specimen the diverticula were located on antimesentric border with inflammation and appendicitis .

Appendiceal diverticular disease classification according to Phillips et al. (2)

Microscopic typologies of appendiceal diverticular disease ^[7]

- Type 1 Primary acute diverticulitis, with or without acute peridiverticulitis
- Type 2 Acute diverticulitis secondary to acute appendicitis
- Type 3 Diverticulum without inflammation
- Type 4 Diverticulum with acute appendicitis
- Type 5 Chronic peridiverticulitis with acute appendicitis

According to this classification our case was type 2.

Radiographic diagnosis of appendiceal diverticulosis/diverticulitis is difficult, but CT scan may identify an appendiceal diverticulum with the pericaecal fat showing increased density. Lee reported that it is possible to differentiate appendiceal diverticulitis from acute appendicitis by visualizing the inflamed

diverticulum through CT abdominal scan (6). In our case sonography was suggestive of acute appendicitis. No comment on diverticula was made. Ct abdomen was not advised in view of clinical finding conformed by imaging.

appendiceal diverticula associated with higher risk of perforation and neoplasm. Perforation is more likely with risk for diverticulosis around 27% compared to 6.6 % for appendicitis. In Collins' study perforation was seen in approximately 17% of appendiceal diverticula specimens. (12) Dupre et al. reported 11 cases of neoplasia on a series of 23 patients with appendiceal diverticula (47.8% of total) (7). Kallenbach et al. demonstrated a similar association between appendiceal diverticula and neoplasms (43.6%; 17 cases on a series of 39 patients) (8) while Marcacuzco et al. (9) had a lower incidence (7.1%; 3 cases on a series of 42 patients). It is recommended to execute an accurate evaluation of the appendiceal specimen when diverticula are evidenced in order to exclude possible concomitant neoplastic disease. In our case histopathology revealed acute appendicitis with diverticulitis without any evidence of perforation and neoplasm.

Appendectomy (lap/open) is indicated in a case of acute diverticulitis with or without appendicitis and prophylactic appendectomy in case of asymptomatic appendiceal diverticulosis also advisable. Surgery should be performed safely in order to avoid rupture with consequent risk of peritoneal seedling and pseudomixoma peritonei.

We also performed lap appendectomy safely and specimen was retrieved in endobag to avoid spillage.

IV. Conclusion

Appendiceal diverticulitis is a rare condition which cannot be distinguished from acute appendicitis clinically and on imaging. Appendiceal diverticulosis is a rare entity which is often diagnosed during performing appendectomy for appendicitis and on histopathological examination. One should take care of appendiceal diverticula in case of appendicitis to avoid risk of perforation and careful retrieval of specimen in bag during surgery to avoid contamination and seedling of neoplasm. And specimen should be carefully examined to find out any other underlying neoplasm. Prophylactic appendectomy should be performed in case of incidental finding of appendiceal diverticula in asymptomatic patients in order to avoid the high risk of perforation.

References

- [1]. Itieri ML, Piozzi GN, Salvatori P, Mirra M, Piccolo G, Olivari N. Appendiceal diverticulitis, a rare relevant pathology: Presentation of a case report and review of the literature. *Int J Surg Case Rep.* 2017;33:31-34
- [2]. B.J. Phillips, C.W. Perry Appendiceal diverticulitis *Mayo Clin. Proc.*, 74 (1999), pp. 890-892, 10.4065/74.9.890
- [3]. Abdullgaffar B. Diverticulosis and diverticulitis of the appendix. *Int. J. Surg. Pathol.* 2009;17:231–237.
- [4]. Collins D.C. A study of 50,000 specimens of the human vermiform appendix. *Surg. Gynecol. Obstet.* 1955;101:437–445
- [5]. Sohn T.J. Clinical characteristics of acute appendiceal diverticulitis. *J. Korean Surg. Soc.* 2013;84:33–37
- [6]. Lee K.H. Appendiceal diverticulitis: diagnosis and differentiation from usual acute appendicitis using computed tomography. *J. Comput. Assist. Tomogr.* 2007; 31:763–769
- [7]. Dupre M.P., Jadavji I., Matshes E. Diverticular disease of the vermiform appendix: a diagnostic clue to underlying appendiceal neoplasm. *Hum. Pathol.* 2008; 39:1823–1826.
- [8]. Kallenbach K., Hjorth S.U., Engel V. Significance of acquired diverticular disease of the vermiform appendix: a marker of regional neoplasm. *J. Clin. Pathol.* 2012;65:638–642.
- [9]. Marcacuzco Quinto A.A., Manrique M.A., Calvo P.J. Implicaciones clínicas de la enfermedad diverticular del apéndice. Experiencia en los últimos 10 años. *Cir. Esp.* 2016;94:44–47.
- [10]. Lobo-Machín I, Delgado-Plasencia L, Hernández-González I, Brito-García A, Burillo-Putze G, Bravo-Gutiérrez A, Martínez-Riera A, Medina-Arana V. Appendiceal diverticulitis and acute appendicitis: Differences and similarities. *Rev Esp Enferm Dig* 2014; 106:452-458.
- [11]. Singh-Rangers D, Mangalika M. Appendix Diverticula - A Serious Diagnosis: Case Report and Literature Review. *Clin Surg.* 2018; 3: 2270