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DR. JAYKUMAR VIJAYBHAI , DR VARSHA ASWANI ,DR. SHAISHAV V. PATEL , DR. DIPEN K. KOTWAL .Dr. Kamlesh A. Bhadreshwara

Dr. Jaykumar V. Sharma (3 rd year General surgery resident)

Dr. Varsha Aswani

Dr. Kamlesh A. Bhadreshwara(prof &Head of Unit)

Dr. Shaishav V. Patel(Associate CECAL DIVERTICULITIS: AN UNUSUAL CAUSE OF ACUTERIGHT ILIAC FOSSA PAIN—A CASE REPORT professor)

Department of surgery , SVP Hospital and NHL medical college Ahmedabad pin 380006

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Abstract

INTRODUCTION: The cecal diverticulum is a rare disease with reported incidence of 0.04% to 2.1% (1–3). 85% of diverticulum occurs more commonly in the descending and sigmoid colon rather than in cecum [1] Diverticulae of the colon are mucosal herniations in the colon wall muscle layer through (relatively weaker) points of entry of blood vessels through the colonic wall [3] and are more commonly found in the sigmoid colon and descending colon. Caecal diverticulitis is a rare clinical problem, its signs and symptoms are very similar to those of appendicitis. **OBJECTIVE** - Here we present a case of caecal diverticulitis which was diagnosed with the help of various radiological investigations and was managed conservatively with a positive outcome. We were able to avoid operative intervention owing to the specificity of the ultrasonography and computerized tomography in ruling out other conditions that preclude conservative management. The management of diverticulitis of cecum is varied and controversial due to lack of randomized trials comparing conservative and aggressive surgical treatment methods. **METHOD** - A 70 year-old diabetic and hypertensive male patient presented to the hospital's emergency department with a 72-hour history of a severe right, lower abdominal quadrant pain with accompanying nausea and vomiting. Physical examination revealed clinical signs of acute abdomen with local rebound tenderness and guarding in the right iliac fossa. An ill-defined lump of 3 × 4 cm was palpated in the RIF extending to the hypogastrium. So we diagnosed the patient with available radiological and other modalities so we can take the decision for operative or conservative **management** **RESULTS** - Caecal diverticulitis is a rare clinical problem in the Western world, more commonly seen in the descending and sigmoid colon [2]. We were able to avoid operative intervention owing to the specificity of the ultrasonography and computerized tomography in ruling out other conditions that preclude conservative management. Solitary diverticulitis of the cecum, even if it is a rare entity, should be taken into consideration during the differential diagnosis of patients complaining of right iliac fossa pain. **CONCLUSION** - The use of radiological investigations such as abdominal USG and CT scan for the evaluation of the right abdominal pain is very helpful for diagnostic accuracy and avoiding unexpected findings in the operating theatre. A careful preoperative assessment to diagnose the pathology and to diminish the possibility of surgical intervention is necessary as the mainstay of therapy for right-colonic diverticulitis is medical rather than operative management

Key words : CECAL ,DIVERTICULITIS , RIGHT, ILIAC ,FOSSA, PAIN

INTRODUCTION

The cecal diverticulum is a rare disease with reported incidence of 0.04% to 2.1% (1–3). 85% of diverticulum occurs more commonly in the descending and sigmoid colon rather than in cecum

[1]

Right-sided diverticula may be solitary or numerous and can be found in the cecum, or throughout the ascending colon. When right-sided diverticula are solitary, they are usually congenital and true diverticula; when multiple, they are typically acquired and false diverticula.^[3] Diverticula of the colon are mucosal herniations in the colon wall muscle layer through (relatively weaker) points of entry of blood vessels through the colonic wall and are more commonly found in the sigmoid colon in the Western world. The preoperative diagnosis of caecal diverticulitis is difficult and one report claims it is only made in 9% of the cases, and most of these patients have had previous appendectomy [5][3]

The main complication of the cecal diverticulum is cecal diverticulitis, which was first described by Potier in 1912. Its signs and symptoms are very similar to those of appendicitis.^[2] Lane et al [6] reported that more than 70% of patients with caecal diverticulitis were operated on with a presumptive preoperative diagnosis of acute appendicitis. [3] The two are indistinguishable except occasionally by imaging investigations but mostly are discerned at operation [3-5].

As acute appendicitis is mainly a clinical diagnosis, many patients presenting with RIF pain and tenderness with a presumptive diagnosis of appendicitis are usually not subjected to

preoperative radiological investigations [3]

Here we present a case report that will show us the importance of imaging studies before planning any further invasive procedure and the possibility of avoiding a procedure completely.

History :

A 70 year-old diabetic and hypertensive male patient presented to the hospital's emergency department with a 72-hour history of a severe right, lower abdominal quadrant pain with accompanying nausea and vomiting. Physical examination revealed clinical signs of acute abdomen with local rebound tenderness and guarding in the right iliac fossa. An ill-defined lump of 3 × 4 cm was palpated in the RIF extending to the hypogastrium.

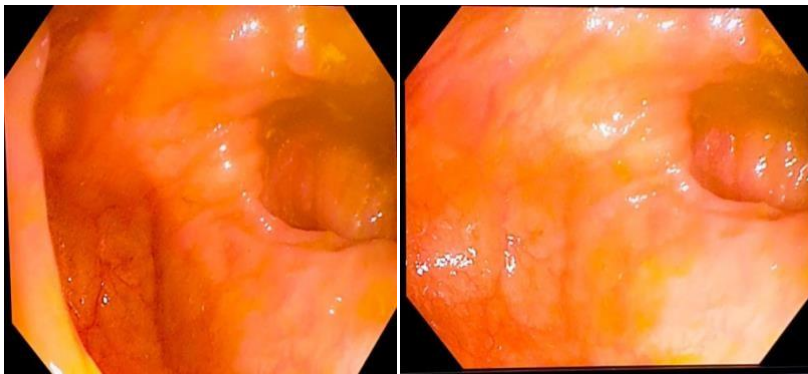
The vital signs were as follows: temperature 101.5 F, pulse rate 94 beats/min, blood pressure 144/82 mmHg, and respiratory rate 24/min.

The laboratory test results on admission were within the normal limits except the elevated white blood cell (WBC) count of 13000 / μ L. An outside USG abdomen of the patient was suggestive of sealed off perforated appendix.

Aultrasonography of the abdomen and pelvis was performed again which revealed oedematous wall of the ileocaecal junction and caecum with maximum 7 mm wall thickness of the caecum and minimal free fluid in the interbowel region.

As further imaging was warranted a computerized tomography of the abdomen was performed with contrast, it revealed a 24 x 23 mm air and contrast filled out pouching arising from the medial wall of the caecum at the level of the ileocaecal junction with oedematous wall and surrounding fat stranding suggestive of diverticulitis and few small out pouching arising from the ascending colon suggestive of multiple diverticulae along with an incidental gallbladder calculi and minimal free fluid in the inter bowel region.

A colonoscopy was performed during the same admission which confirmed caecal diverticula. The patient was managed conservatively with antibiotics and analgesics and discharged on the 6th day post admission with P/A soft, non-tender and no lump palpated.



COLONOSCOPY
CONFIRMING CAECAL
DIVERTICULA

DISCUSSION

Caecal diverticulitis is a rare clinical problem in the Western world, more commonly seen in the descending and sigmoid colon [2].

The reported frequency in literature has been estimated to be 1 in 300 appendicectomies. It accounts for 3.6% of all colonic diverticula with median age incidence of 44 years and male to female ratio of 3:2. Solitary diverticulum of the cecum is believed to be congenital in origin and appears in the 6th week of pregnancy. The majorities of them are developed in the frontal

surface of the colon and are usually asymptomatic. In case of inflammation or perforation, the clinical symptoms and signs of the disease mimic acute appendicitis. [5].

The differential diagnosis of diverticulitis of the right colon is wide and includes acute appendicitis, gastroenteritis, cecum malignancy, foreign body perforation, ileocecal tuberculosis, crohn's disease, urinary tract infection, ureteric calculi and pelvic inflammatory disease,. Some studies suggest clinical features which could help in the differential diagnosis of cecal diverticulitis from acute appendicitis. In particular, there is greater duration of abdominal pain with lack of systemic toxic signs and low incidence of nausea and vomiting. The symptoms of cecal diverticulitis usually start and remain localized in the right iliac fossa rather than following the usual process of acute appendicitis originating in the epigastrium.

The preoperative diagnosis of disease is quite difficult without radiological imaging. Previous studies have reported that ultrasonography could differentiate between right-sided diverticulitis and acute appendicitis with high accuracy. In particular, it was shown that ultrasonography had a sensitivity of 91.3% and a specificity of 99.8% with an overall accuracy of 99.5% in the diagnosis of cecal diverticulitis. However, other researchers suggest that helical CT scan with intravenous contrast is superior to ultrasonography, as it can demonstrate features of acute right-sided diverticulitis with higher sensitivity. Thus, the use of CT scanning for the evaluation of the right abdominal pain is very helpful for a careful preoperative assessment to exclude malignancy and to diminish the possibility of surgical intervention and patient's hospitalization.

The prevalence of colorectal cancer is 1.6% in patients with acute diverticulitis who underwent colonoscopy. The risk of having colorectal cancer after an episode of acute diverticulitis is 44-fold higher than that of an age- and gender-adjusted reference population. [14]

The management of solitary diverticulitis of cecum is varied and controversial due to lack of randomized trials comparing conservative and aggressive surgical treatment methods. [1]

If a preoperative diagnosis of uncomplicated diverticulitis is made, patient management should consist of bowel rest and intravenous antibiotics. Right-sided diverticulitis differs from left-colon diverticulitis as it has a more indolent course. Komuta et al. published a study demonstrating 99% of patients preoperatively diagnosed with uncomplicated right colon diverticulitis were successfully treated with bowel rest and antibiotics.[13]

There is no standard surgical procedure for the treatment of an acute, inflamed solitary cecal diverticulum, since the surgical approaches are not evidence-based. The choice of the surgical approach should be tailored to the operative findings and depends on the experience of the surgeon. [8]

	Advantages	Disadvantages
Conservative	Avoids surgery Applicable for high- risk patients	Only applicable to early stages of diverticulitis High failure rate Disease recurrence
Diverticulectomy	Can be performed through appendix incision Low morbidity and mortality	Only suitable for solitary diverticula Under treatment of potential underlying malignancy Not suitable for large inflammatory lesions
Ileocaecal resection	Shorter operating time than right hemicolectomy.	Under treatment of potential underlying malignancy.
Right hemicolectomy	Definitive treatment for potential underlying carcinoma.	Longer operating time Potentially significant morbidity and mortality Over treats patients with benign pathology.

Conclusion:

- The use of radiological investigations such as abdominal USG and CT scan for the evaluation of the right abdominal pain is very helpful for diagnostic accuracy and avoiding unexpected findings in the operating theatre.
- A careful preoperative assessment to diagnose the pathology and to diminish the possibility of surgical intervention is necessary as the as the mainstay of therapy for right- colonic diverticulitis is medical rather than operative management.
- Solitary diverticulitis of the cecum, even if it is a rare entity, should be taken into consideration during the differential diagnosis of patients complaining of right iliac fossa pain.
- The surgical trainees must be familiar with the diagnosis and management of this rare surgical disease.

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