

# Acute Appendicitis After a Prior Appendicectomy: An Unorthodox Surgical Paradox

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## ABSTRACT

Acute appendicitis after prior appendicectomy is highly difficult to diagnose, especially in face of definite history of appendicectomy and presence of appendicectomy scar in the right iliac fossa. We are highlighting a case report of a 40-year old woman who despite having had appendicectomy 2 years back presented with severe abdominal pain in the right iliac fossa in association with anorexia, nausea, vomiting and low-grade pyrexia of one day duration. On the basis of clinical evaluation and haematological and radiological investigations, diagnosis of perforated appendicitis was made. After thorough counselling of the patient and relatives, re-exploration of the patient was performed after excision of previous appendicectomy scar. The appendix was found to be perforated with an extraluminal faecolith and purulent exudate in the right iliac fossa. Appendicectomy and local peritoneal lavage resulted in uneventful recovery of the patient. Histopathology of the specimen revealed acutely inflamed appendicitis.

**Key Words:** *Perforated appendicitis. Appendicolith. Appendicitis after appendicectomy.*

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## INTRODUCTION

Acute appendicitis is a common acute surgical emergency and appendicectomy usually results in a permanent cure of this potentially life-threatening condition. The common causes responsible for post-appendicectomy appendicitis include stumpitis of a long residual stump,<sup>1</sup> retained intact appendix during draining of appendicular abscess, inexperienced surgeon with failure to locate, retrieve and remove appendix or meta-chronous appendicitis in cases of *appendicular duplex*.<sup>2</sup> However, unequivocal history of prior appendicectomy, existence of appendicectomy scar in right iliac fossa and classical appendicitis-like picture pose clinical, diagnostic and therapeutic dilemmas.

The rationale of highlighting this case scenario is to impart explicit message to the healthcare professionals that they should not be misled if there is clinically appendicitis-like picture, definite history of appendicectomy and presence of appendicectomy scar; should use clinical acumen and expertise to think of appendicitis. Failure on the behalf of the clinician(s) in this regard may culminate in grave consequences such as appendiceal perforation and medicolegal litigation. A high index of suspicion, sound clinical judgment and good practical experience of the surgeon to handle such cases play great dividends under such perplexing circumstances.

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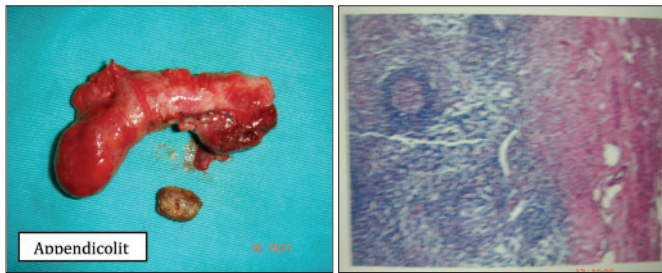
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## CASE REPORT

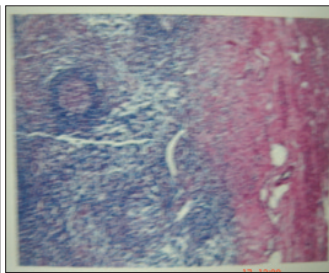
A 40-year old woman school teacher by profession, presented in PAEC Hospital, Chashma (Mianwali) in July 2012 with severe abdominal pain in right iliac fossa along with anorexia, nausea, vomiting, and low-grade fever of one day duration. She was in severe agony at the time of presentation and it was difficult for her even to walk in upright posture. She gave history of a similar attack of abdominal pain about 2 years back for which appendicectomy was performed by a qualified senior surgeon.

She was haemodynamically stable at the time of hospitalization. Her general physical and systemic examinations were unremarkable. Abdominal examination revealed presence of hypertrophic scar of grid-iron (McBurney) incision, exquisite tenderness, rebound tenderness, guarding and rigidity in Right Lower Quadrant (RLQ) and hypogastrium. Accordingly, clinical impression of acute appendicitis was made.

Laboratory investigations showed marked leucocytosis (WBC; 18.5 x 10<sup>3</sup>/dl) and raised level of C-reactive protein. Her rest of the biochemical profile was within normal range. X-ray KUB demonstrated radio-opaque shadow in the Right Iliac Fosse (RIF) (Figure 1). Ultrasonography depicted presence of pericaecal exudate in RIF, edematous ileocaecal wall and aperistaltic terminal ileum with to and fro motion of its luminal contents. Keeping in view the clinical, radiological and sonographic findings, diagnosis of acute appendicitis was established. CT scan abdomen was not done because of non-availability. The patient and her relatives were briefed about clinical impression of acute appendicitis with or without perforation and need for urgent surgical exploration. As a natural response, the



**Figure 1:** Operative specimen of the appendix with an appendicolith.



**Figure 2:** Histologic section of the appendix (magnified).

patient and her relatives became quite upset and were reluctant to agree with the clinical impression of acute appendicitis as her appendix had been removed 2 years back. Eventually after painstaking discussion and counselling, they agreed for re-exploration.

After a written informed consent, she was explored through old grid-iron (McBurney) incision after excision of hypertrophic scar. On opening the peritoneum, foul-smelling purulent exudate came out. Exploration of right iliac fossa revealed edematous ileocaecal wall and evolving appendicular mass with embedded appendix in its centre. The appendix was delicately separated from the ileocaecal wall to avoid inadvertent iatrogenic gut injury. The appendix was found to be perforated at its base with a faecolith lying outside the appendiceal lumen near its basal perforation (Figure 2). The scar or stump of previous appendicectomy on the caecum was not traceable because of intense inflammatory edema in the ileocaecal region. Appendicectomy and local peritoneal lavage resulted in uneventful recovery of the patient. Histopathology of the appendicectomy specimen was compatible with the diagnosis of acutely inflamed appendix.

## DISCUSSION

The diagnosis of acute appendicitis after prior appendicectomy is an inexplicable clinical scenario to decipher. It is not only distressing for the patient but embarrassing for the operating surgeon as well. A surgeon is the luckiest person if he had not come across such perplexing situation in his whole professional career. Under such vexing circumstances, high index of suspicion and sound judgement and practical approach are imperative by keeping following possibilities in mind; (1) stump appendicitis (stumpitis); long residual appendiceal stump after prior subtotal appendicectomy (especially laparoscopic one) could get inflamed known as stumpitis (stump appendicitis). An appendicular stump longer than 3 mm could harbour a faecolith and develop inflammation (stumpitis) with or without perforation and peritonitis. It can not be overemphasized that appendicular stump at the time of appendicectomy must be kept as small as possible or preferably it should ligated flush with the caecal wall to avoid occurrence of

such queer consequence in future;<sup>1-4</sup> (2) simple drainage of appendicular abscess without appendicectomy; simple drainage of appendiceal abscess without appendicectomy at initial operation could confuse clinical picture due to presence of appendicectomy scar in the RIF. The unremoved appendix may get inflamed after some time and presents as acute appendicitis and is wrongly treated by conservative means by an unwary clinician who gets false impression that it could not be a case of appendicitis again because of appendicectomy scar in the RIF till onset of appendiceal perforation and peritonitis. Therefore, early appendicectomy in appendicular mass is advisable and is being adopted as more effective approach than conventional management of appendiceal mass followed by interval appendicectomy;<sup>5,6</sup> (3) lack of surgical expertise; because of lack of sufficient surgical experience, an intact appendix might be left inside the abdomen during initial attempt at appendicectomy which subsequently gets inflamed and presents as acute appendicitis. This phenomenon occurs due to inability to locate, retrieve and remove the appendix either because of its difficult location (retrocaecal or subhepatic) or presence of marked desmoplastic reaction or formation of friable phlegmonous appendiceal mass with considerable risk of iatrogenic bowel injuries during separation of the appendix from its contents. Shortly, the patient presents with another attack of acute appendicitis and is unfortunately treated conservatively as non-specific abdominal pain due to previous history of appendicectomy and existence of appendicectomy scar till onset of appendiceal perforation like our patient requiring urgent re-exploration (laparotomy or appendicectomy);<sup>7</sup> and (4) metachronous appendicitis of second appendix due to appendiceal duplication after appendicectomy of its counterpart. Duplication of appendix is found in 0.004%.<sup>8-10</sup>

To sum up, it should be a routine practice every specimen(s) retrieved from the body of the patient should be shown to the patient and relatives before dispatching for histopathology because of the fact that visual memory is better than verbal conversation.

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