

## Nonspecific Cecal Ulcer: An Obsolete Jargon

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**Received:** November 28, 2012

**Accepted:** December 28, 2012

**Published Online:** January 7, 2013

**DOI:** 10.5455/jihp.20121228043742

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**Keywords:** Nonspecific cecal ulcer;  
benign cecal ulcer; solitary cecal ulcer;  
histopathology; lower gastrointestinal  
bleeding.

**Abstract**

Nonspecific cecal ulcer (NSCU) is a rare entity described by Cruveilhier in 1832. NSCU has no specific presenting features and it can mimic a host of conditions like appendicitis, diverticulosis and colonic carcinoma. Earlier, this terminology was used to depict those ulcers where it was not possible to make the exact diagnosis. There are only a few cases where a specific preoperative diagnosis was made. The number of NSCUs being reported recently is less. This is due to the advent of newer diagnostic techniques to identify the etiology of these ulcers. Hence the term NSCU is no longer employed in current literature because a specific diagnosis is attained in most ulcers. Therefore the term NSCU is no longer valid and its use should be largely restricted to those cases where a specific diagnosis is not possible even after exhausting the currently available investigative techniques. This article provides an overview of this outdated term and outlines how to proceed when NSCU is encountered in clinical practice.

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### INTRODUCTION

Nonspecific cecal ulcer (NSCU) is a rare entity, described by Cruveilhier [1] in 1832. There are no specific clinical features for this condition and it can mimic appendicitis, diverticulitis, intestinal obstruction and colonic carcinoma. Colonoscopy aids in the diagnosis of NSCU. Prompt and appropriate management can prevent the morbidity and mortality associated with NSCU. Approximately 210 cases of NSCU have been reported until 2008 [2,3]. Obtaining a specific preoperative diagnosis in these cases is rather impossible. The terms benign cecal ulcer and solitary cecal ulcer have been synonymously used with NSCU.

### ETIOPATHOGENESIS

The etiopathogenesis of NSCU is an enigma. Nonspecific colonic ulcers occur most frequently in the cecum and ascending colon and are mostly solitary, often located within 2 cm of the ileocecal valve on the antimesenteric wall of the colon [4-6]. These ulcers have been attributed to drugs like non-steroidal anti-inflammatory drugs like ibuprofen, oxyphenbutazone

and oral contraceptives, infection due to cytomegalovirus, *Campylobacter jejuni*, *Strongyloides* and *Entamoeba histolytica* and neoplastic conditions [3]. Various mechanisms postulated for NSCUs include colonic irritation by small bowel contents, drugs like anti-inflammatory agents, steroids, or enteric-coated potassium tablets, peptic ulcer diseases, localized ischemia, atherosclerosis, vascular thrombosis and infections [3,4,6-8]. NSCU has also been observed in patients on chronic hemodialysis and renal transplant recipients [3].

### CLINICAL FEATURES

NSCU is extremely uncommon and its definitive etiology is a mystery. NSCUs usually occur in the fourth to sixth decade with a female preponderance [3]. The clinical presentation and disease course are obscure and definitive diagnosis is possible only after surgical resection [4]. Right lower quadrant abdominal pain with hematochezia, either acute or chronic, is the most common presentation of NSCU. Acute symptoms include pain in the right iliac fossa, fresh rectal

bleeding, bloody diarrhea and black stools. Chronic symptoms include diffuse right lower quadrant pain, bleeding per rectum, constipation and weight loss. Examination reveals tenderness in the right iliac fossa and a tender inflammatory mass may be palpable [2,3].

Acute appendicitis, diverticulosis, tuberculosis, intestinal obstruction and colonic carcinoma are the common differential diagnoses to be considered before labeling a solitary cecal ulcer as NSCU [3,5].

**Table 1.** Clinical, radiological and pathological features of conditions mimicking NSCU

Disease	Acute appendicitis	Crohn's colitis	Diverticulosis	Colonic carcinoma	Intestinal Tuberculosis
<b>Clinical features</b>	RLQ Pain abdomen, anorexia, nausea, vomiting, fever, constipation/ diarrhea	Diarrhea, crampy abdomen pain, malaise, weight loss, fever, rectal bleeding, anemia, nausea and vomiting	Lower gastrointestinal bleeding	Hematochezia/melena, anemia, weight loss and obstructive symptoms	Diarrhea, weight loss, attacks of abdominal pain with intermittent diarrhea, mass in the right iliac fossa and ascites
<b>Ultrasonogram</b>	Tubular, aperistaltic, non-compressible, blind ending structure			Colonic wall thickening, nodal disease, metastatic spread	Thickened peritoneum, free fluid, nodules, matted lymph nodes
<b>Contrast enhanced CT</b>	Enlarged appendix, appendiceal wall thickening, periappendiceal fat stranding, appendiceal wall enhancement, target structure, phlegmon, arrowhead sign, cecal bar, abscess	Colonic thickening, adenopathy, intra-abdominal abscess		Site of lesion, extent of growth, nodal involvement, metastatic spread	Same as ultrasonogram
<b>Colonoscopy</b>	-	Aphthous ulcers with skip lesions, congestion, edema, and a cobblestone appearance		Aids in biopsy of the lesion and to look for any metachronous lesion	Mucosal ulcerations, nodularity, deformity, narrowing, and stricture of the bowel
<b>Barium enema</b>	-	Skip areas, ulcerations, fissures, pseudodiverticula, narrowing, strictures, pseudopolypoid changes		Apple core or napkin ring lesion in constricting growth	Fleischner sign*, Sterlin sign**
<b>Histopathology</b>	Appendicitis	Noncaseating granuloma, transmural inflammation, submucosal edema, lymphoid aggregation	Colonic wall thickening	Type of carcinoma	Caseating granulomas
<b>Supplementary investigations</b>		Positive for ASCA and p-ANCA <sup>#</sup>	CT angiogram	CEA <sup>¥</sup> levels	Polymerase chain reaction, ADA <sup>§</sup>

\* Fleischner sign: Thickening of the ileocaecal valve, a wide-open valve accompanied by narrowing of the terminal ileum.

\*\* Sterlin sign: Fibrotic terminal ileum opening into a contracted caecum

<sup>#</sup> ASCA: Anti-*Saccharomyces cerevisiae*, p-ANCA: Perinuclear antineutrophil antibody

<sup>¥</sup> CEA: Carcinoembryonic antigen

<sup>§</sup> ADA: Adenosine deaminase

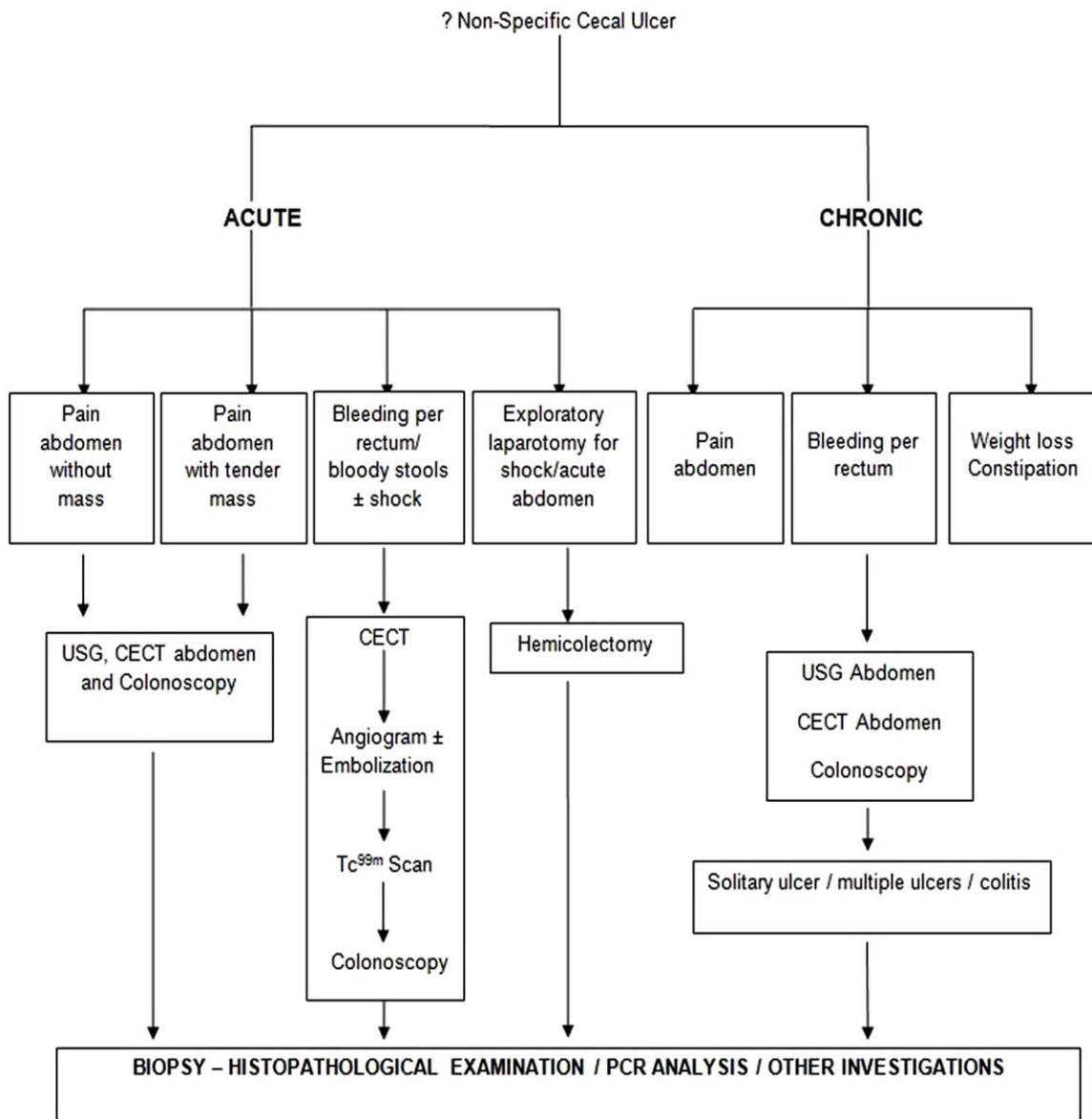


Figure 1. Algorithmic approach to NSCU

## MANAGEMENT

The management of NSCU depends on the mode of presentation. An acute presentation requires emergency exploratory laparotomy while ulcers detected incidentally on colonoscopy require biopsy from the ulcer edge. The identification of the nature of the ulcer (benign or malignant) is rather difficult. This fact has led many surgeons to advocate limited right hemicolectomy as the definitive surgical management

for NSCU. Benign ulcers detected following a frozen section examination will require a limited resection and follow up with colonoscopy [9-11]. In bleeding ulcers, embolization of the involved artery, is a handy treatment modality with 97% success rate [12]. A specific preoperative diagnosis of nonspecific cecal ulcer is difficult owing to its rarity and only two such cases have been reported in the past hundred years. This highlights the need for pathological confirmation in NSCU [7]. An algorithmic approach to suspected NSCU is depicted (Fig. 1)

## CONCLUSION

The term NSCU is obsolete today because it is possible to identify the cause of the ulcer with extensive investigations available and hence NSCU should always be a diagnosis of exclusion. Thus, nonspecific cecal ulcer as a definitive diagnosis is possible only after excluding common conditions on histopathology and corroborative investigations.

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