



## CASE STUDY

# ACUTE APPENDICITIS MASKING CARCINOMA OF THE CECUM: CASE STUDY AND REVIEW OF THE LITERATURE

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### Abstract

A 49 years old diabetic Saudi man presented with a clinical picture typical of acute appendicitis with mild fever but marked leucocytosis. He had no history of recent change in bowel habits. Under clindamycine, cefotaxime and metronidazole umbrella, appendectomy was planned through a Gridiron incision. At operation a hard friable cecal mass was found incorporating a perforated inflamed appendix. Right hemicolectomy was performed after changing the incision to a paramedian one. Gross examination of the specimen showed an ulcerated cecal tumour extending few centimetres in the ascending colon and involving the ileocecal valve. Microscopically it was moderately differentiated invasive adenocarcinoma and the tumor was staged as Duke's – C with lymph nodes free of deposits. He subsequently received chemotherapy by Folfox protocol.

Cecal carcinoma presenting as acute appendicitis is a recognized operative entity in the elderly but may be overlooked in younger patients less than 40 years. It is recommended to do colonoscopy as a routine 6 weeks after appendectomy for patients belonging to this category

**Keywords:** Appendicitis, Cancer cecum, appendicular mass.

### INTRODUCTION

Colorectal cancer is one of the most prevalent newly diagnosed cancers and a major cause of cancer related deaths all over the world.<sup>(1,2)</sup> In the meantime appendicitis is the most common cause of acute abdomen in Saudi Arabia as it is in other parts of the world. The association between acute appendicitis and colon cancer (mostly cecal) is a rare entity particularly before the age of 40 years. Above that age a higher incidence of this association was internationally reported<sup>(3)</sup> Table I. The first case describing this was reported more than a century ago by Shears in 1906.<sup>(4)</sup> Within the context of diagnosis and management, there is evidence that a great risk is always present, as the diagnosis in most cases is frequently overlooked and the

case is consequently mismanaged. All reported patients had been the subjects of laparotomy on suspicion of being acute appendicitis, and when a mass is found out at operation, it was presumed to be a result of perforation of a gangrenous appendicitis or cecal wall and not due to malignancy.<sup>(5)</sup> When those patients are subjected to appendectomy only with or without external drainage, a fecal fistula is to be expected that always persists. For this letdown, attention is directed towards avoiding a false feeling of security in the presence of evidence of inflammation in the right iliac fossa, which may misleadingly suggest an appendix abscess or a mass. Many theories were postulated to explain the awful association between appendicitis and colonic carcinoma (cecal in 43.7%)<sup>(2)</sup> all pointing to luminal obstruction by the tumor mass. The presence of

the tumor in the immediate proximity to the appendix causes a back pressure in the ascending colon or even more distal.<sup>(6)</sup> Major concern should be paid to exclude malignancy in this area whenever the surgeon feels "uneasy" about the situation, as failure to recognize the quandary at the time of appendectomy means passing through multiple operations, followed by a shoddy prognosis.<sup>(1)</sup> Even though, the average delay of appendectomy to the recognition of colonic or cecal malignancy was 4.6 months.<sup>(7)</sup>

**Table 1. Sample Series: Association of acute appendicitis and colonic or cecal carcinoma.**

Series	Author	Year	No. or %
1	Burt <sup>(8)</sup>	1949	13
2	Thomas <sup>*(9)</sup>	1953	11
3	Collins et al <sup>(7)</sup>	1961	3 %
4	Hossain <sup>(10)</sup>	1962	79
5	Robert et al <sup>(4)</sup>	1967	
6	Mc Laughlin <sup>(11)</sup>	1969	11
7	Nitschke <sup>(12)</sup>	1976	12
8	al <sup>(5)</sup> Temple et	1981	0.85 %
9	Arnbjornsson <sup>(13)</sup>	1982	2.9%
10	<sup>(14)</sup> Peck	1988	33
11	et al <sup>(15)</sup> Bleker	1989	8 %
12	Bizer** <sup>(16)</sup>	1993	1.8 %
13	et al <sup>(17)</sup> Adebamowo	1996	2
14	Hung-Wen Lai et al <sup>(2)</sup>	2007	15
15	Alvaro et al <sup>(3)</sup>	2008	11

\*\* In elderly Patients (> 40 years)

\* Picked-up from diagnosed cancer cecum patients

## CASE REPORT

S.M.A is a 49 years old man, diabetic and hypertensive, presented to the Emergency Room of King Abdulaziz University Hospital at Jeddah with a clinical picture typical of acute appendicitis combined with mild fever and marked leucocytosis (19000/ml). Anorexia and nausea were progressively increasing with time, and dysuria was evident in the following few hours. He had no history of any change in bowel habits. The right iliac fossa pain was not severe but tenderness was marked with rebound. There was a palpable mass in the right iliac fossa assumed to be an appendicular (inflammatory) mass. The patient's status was rapidly deteriorating giving no time to do contrast or endoscopic studies which are mandatory in our center. Rapid control of diabetes by crystalline insulin was achieved, and under parenteral triple antimicrobial therapy (Clindamycin, Cefotaxime and Metronidazole) appendectomy was planned through Gridiron Mc Burney's incision. There was a hard cecal mass incorporating the ileocecal valve area, appendix,

omentum and terminal ileum, all shot in purulent exudates. A separate lower paramedian incision was done and the mass was found fragile but resectable and extended right hemicolectomy was performed. Gross examination of the specimen showed an ulcerated cecal tumor extending few centimetres in the ascending colon. Microscopically it was moderately differentiated invasive adenocarcinoma without any lymphovascular invasion and the tumor was staged as Duke - C. The removed lymph nodes were free from malignant deposits, and the incorporated appendix was perforated. The patient stayed in hospital for 8 days and planned to receive chemotherapy by the Folfox protocol.

## DISCUSSION

In association with colonic or cecal carcinoma, acute appendicitis is as many times as frequent as appendicitis de novo, amounting to 30-fold in some studies.<sup>(13)</sup> Suspicion should always grow if: the patient is older than 40 years, pain is minimal or absent, symptoms lasting more than one week, and if a palpable mass is present in the right lower abdomen. The presence of recent weight loss, anorexia with anemia and toxemia strengthens the suspicion. If the patient's condition is not rapidly getting worse, barium enema of the colon can confirm or exclude the presence of malignancy.<sup>(15)</sup> In the present case study the presence of poorly controlled diabetes mellitus is probably the cause of the rapid deterioration of the patient's general and local conditions, allowing no time to do the barium enema or CT, which could provide a clue for correct diagnosis. In young patients, the lack of suspicion of such possibility is the undermining cause for postoperative morbidity including fecal fistula due to incomplete radical surgery, particularly if the mass - as frequently made- was wrongly diagnosed as inflammatory. Recognizing this entity in young patients is difficult because malignant disease is not suspected or even born in mind; nevertheless, its recognition is important because carcinoma in this age group is increasing in incidence and is frequently advanced. In the same time carcinoma of the cecum rarely presents as acute appendicitis as the first show. The incidence of acute appendicitis as the presenting symptom of cecal or ascending colon cancer is reported to be from 3.4 to 15 %.<sup>(18)</sup> The finding of a right lower abdominal mass should alert the surgeon to the possible presence of malignancy. In a review of 85 cases with such a mass, Roberts tabularized 17 different undermining causes, 50% of them were attributed to malignancy.<sup>(19)</sup> However, inflammatory masses are very difficult to differentiate from malignant ones during operation even by experienced surgeons (18.75% by Hung-Wen Lai et al); this made Markgraf to recommend using biopsy and frozen section examination to help in their discrimination.<sup>(2-19)</sup> More often, acute appendicitis with or without perforation may be confirmed at operation and the underlying cecal tumor may be overlooked or is too small to give any doubt. What is more frequent is to discover the carcinoma at a second look surgery when the postoperative course is stormy or a complication arises.

In conclusion to pass up such an awful incident, we share the viewpoint of Fabri and his colleagues<sup>(20)</sup> in routinizing colonoscopy 6 weeks after appendectomy in all patients older than 40 years, to exclude the possibility of an overlooked coexistent colorectal cancer.

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