

Atraumatic Gas Gangrene In Synchronous Colonic Malignancy By Clostridium Septicum: A Rare Case Report

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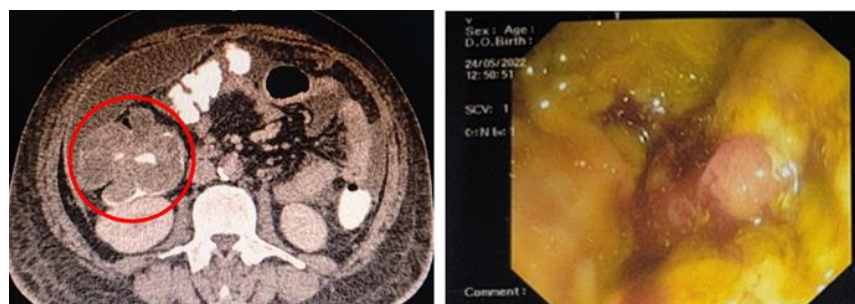
Introduction:

Gas gangrene is an extremely fatal infection of soft tissue which involves myonecrosis and is characterized by rapidly progressive gangrene of the injured tissue. *C. perfringens* is majorly involved in myonecrosis following trauma, whereas *C. septicum* is notorious for spontaneous myonecrosis.

Multiple primary colorectal cancers encountered in a single patient are referred to as **synchronous colorectal cancer**. When more than one primary colorectal carcinoma has been identified in a single person after a predetermined period of time, the condition is known as metachronous colorectal carcinoma.

Case report:

A **44 years old male** patient came with complaints of pain in abdomen for 3 months and passage of black coloured stools for a week. There was a history of significant weight loss with an addiction history of smoking, 10 pack-years. On palpation, an ill-defined, firm lump was palpable at the right iliac region. CECT abdomen and colonoscopy suggested **two separate lesions at ascending colon and sigmoid colon**. Histopathological examination confirmed the diagnosis of adenocarcinoma.



CECT image and colonoscopy showing growth at ascending colon



CECT image and colonoscopy showing growth at sigmoid colon

CECT abdomen and colonoscopy suggested two separate lesions at ascending colon and sigmoid colon.

After 20 days of admission, the patient developed **spontaneous sudden onset right lower limb gas gangrene**. Microscopic examination of foul smelling secretion suggested presence of ***Clostridium septicum***.



Figure 2: Right lower limb atraumatic below knee spontaneous gas gangrene

An **emergency right below knee amputation** was performed. Digital subtraction angiography of bilateral lower limb was done post amputation which was suggestive of extensive atherosclerosis of both the lower limbs. Bilateral aortoiliac plasty and stenting was performed for the same.

Definitive treatment: Patient underwent **total colectomy with ileo-rectal anastomosis**. Two hard lesions were found at ascending colon and sigmoid colon with pT3N0Mx - Stage III.



Ascending colon growth

Sigmoid colon growth

Figure 2: Total colectomy specimen

Discussion:

The **overall incidence of synchronous colorectal cancer is 2.3%-12.4%**. Clostridium septicum is known to cause atraumatic myonecrosis in such malignancy. The occurrence is rare but highly fulminant. Progression to toxemia and shock is often very rapid. It can easily be noticed by the large, blackened sores that form, as well as a degree of loud and distinctive crepitus caused by gas escaping the necrotic tissue. A study by Nanjappa S. et al. stated that the presentation of *C. septicum* bacteremia might vary, and it is **fatal in more than 60% of cases**.

Clostridium septicum are more aerotolerant and associated distant atraumatic myonecrosis is likely due to hematogenous seeding. Conditions precipitating hypoxia such as chronic inflammation, chronic ischaemic conditions like atherosclerosis and anaerobic glycolysis by tumor cells are the risk factors. Ultimately, the patient also needs aggressive resection of synchronous malignancy of the colon.

Conclusion:

Infection with *C. septicum*, although rare, can lead to fatal outcomes and a poor prognosis, owing to its highly virulent and aggressive nature. This warrants **early identification and initiation of treatment with an aim to decrease mortality**. Patients who present with an underlying colonic cancer and signs of infection/ sepsis, should have a high degree of suspicion that they might have a *C. septicum* infection.

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