Black oesophagus: a clinical pearl disclosed by autopsy

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Abstract
A 73-year-old woman came to our hospital with abdominal pain thought to be due to diverticulitis and hence treated with antibiotics. One week later, she returned to the emergency department with nausea, vomiting, diarrhoea and abdominal pain due to an ileus. Her clinical condition rapidly deteriorated with signs of shock. An emergency laparotomy showed an inflammatory stenotic process of the sigmoid and a Hartmann procedure was performed. Postoperatively, despite treatment in the intensive care unit, the patient developed refractory shock with multiple organ failure and died within several hours. Pathological examination of the resection specimen revealed a colorectal adenocarcinoma. Autopsy showed a pseudomembranous colitis (Clostridium difficile, PCR+) of the entire colon. As an unsuspected finding, the distal third of the oesophagus was necrotic and perforated with the typical appearance of a black oesophagus (acute oesophageal necrosis). Black oesophagus is characterised by a black colouring that stops abruptly at the gastro-oesophageal junction. The underlying pathophysiology involves ischaemic death of the oesophagus and was first described by Goldenberg et al. in 1990 [1]. Due to the better vascularised proximal and middle parts of the oesophagus compared with the distal segment, the necrosis starts distally on the watershed blood supply and extends proximally as the disease progresses. The aetiology of black oesophagus is not clear. It is thought to develop subsequently to a number of factors, such as corrosive injury caused by reflux of acid gastric content and decreased tissue perfusion in patients with seriously impaired peripheral circulation. Treatment is mainly supportive.

Figure 1. Black oesophagus (acute oesophageal necrosis). Inset in figure I: the oesophagus with gastro-oesophageal transition. Note the black mucosa of the oesophagus.
and depends on underlying illnesses. Mortality approaches 32%. The black oesophagus in this case was probably due to the combination of shock with a low flow state and the pre-existence of an ileus with gastro-oesophageal reflux in a patient diagnosed post-mortem with a malignancy. Previous treatment with antibiotics led to coexistent pseudomembranous colitis of the entire colon. The autopsy in this case gave us the opportunity to re-evaluate the initial diagnoses and treatment. In this very special case an important unsuspected and rare finding is revealed that contributed to the rapid deterioration of this patient: the black oesophagus.

References