A 'shock-ing' endoscopic finding on esophagogastroduodenoscopy

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DESCRIPTION

Black esophagus is a rare clinical entity, first described in 1990 by Goldenberg *et al*,[1] the pathogenesis of which is not fully understood,[2] but is believed to arise as a result of ischaemic insult seen in haemodynamic compromise and low-flow states, corrosive injury from gastric contents in the setting of esophagogastroparesis and gastric outlet obstruction, and decreased function of mucosal barrier systems and reparative mechanisms present in malnourished and debilitated physical states.

We present a case of 55-year-old woman with stage-IV metastatic lung adenocarcinoma on tarceva (erlotinib) who was admitted with coffee-ground emesis, sepsis and multiorgan failure. She was on pantoprazole for reflux disease. She reported having dysphagia, with mild epigastric pain for preceding 3 days. On examination, she had tachycardia (heart rate 140 bpm) and hypotension (blood pressure 98/68) but had normal abdominal finding. Blood cultures did not grow any organism, she was placed on antibiotics before being transferred to our hospital for care. A CT scan showed hiatal hernia, with air and fluid within the esophageal lumen. An esophagogastroduodenoscopy (EGD) was then performed, and the findings are demonstrated in figure 1.

Clinically patients present with upper gastrointestinal (GI) bleeding or abdominal pain. EGD is diagnostic and shows pale mucosa, circumferential black necrotic, eschar appearing mucosa in esophagus, with sharp transition to normal gastric mucosa which is classical of 'acute esophageal necrosis' (AEN), also called as 'black esophagus' (figure 1). Biopsy, though not required, shows necrotic debris, absence of viable squamous epithelium, and necrosis of esophageal mucosa, with possible involvement of submucosa and muscularis propria.[2] Biopsies were not taken in our case as the endoscopic findings were explanatory. Complications include perforation, mediastinitis and stricture.

Black esophagus generally signifies a poor prognosis and the goals of therapy are aimed at treating the coexisting medical diseases. Key to management is timely systemic resuscitation and patient stabilisation with intravenous hydration and blood transfusion, plus aggressive intravenous proton pump inhibitor therapy.[2] Patients are maintained nil-per-os but initiation of parenteral nutrition may be warranted to improve nutritional status and mucosal healing.

Antimicrobial therapy is important in the setting of positive oesophageal cultures, but role of prophylactic antibiotics is unclear since they in fact may lead to AEN.[3] Surgical intervention should be considered only for perforated esophagus with complications. Our patient passed away from complications of the sepsis and multiorgan failure.

Tarceva (erlotinib) has GI side effects that include diarrhoea (62%), fatal GI perforations and hepatotoxicity with/without hepatic impairment.

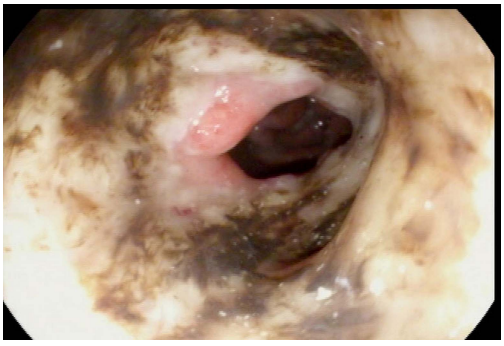

Figure 1 Esophagogastroduodenoscopy of our patient showing pale mucosa in mid-esophagus and circumferential black necrotic, eschar appearing mucosa in distal one-third, with sharp transition to normal gastric mucosa.

Learning points

- Black esophagus is a rare condition that usually occurs secondary to ischaemic injury to gastrointestinal tract.
- It is diagnosed by its typical endoscopic findings and management is targeted towards intravenous hydration, proton pump inhibitors and overall patient stabilisation.
- Mortality has been shown to be as high as 36%, depending on patient's comorbidities, so early diagnosis and management is the key to improve survival.

Contributors

Competing interests None.

Patient consent Obtained.

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