Endoscopic and surgical management of acute haemorrhagic rectal ulcers

Acute haemorrhagic rectal ulcers are rare causes of acute large volume gastrointestinal bleeding in critically unwell patients. Patients affected by this condition are usually elderly, poorly functioning and highly comorbid. This condition is associated with an extremely poor prognosis and high morbidity including often requiring multiple blood transfusions. We report two cases of acute rectal bleeding secondary to rectal ulcers in critically unwell renal failure patients that presented to our tertiary colorectal unit. Despite initial successful endoscopic treatment, these patients rebled and required further intervention. We will review current literature on this condition and address key principles to guide endoscopic and surgical management. Early recognition and prompt intervention is key and clinicians need to anticipate the high rates of reblooding.

An 84-year-old man from an aged-care home with multiple comorbidities including aortic stenosis, stage IV chronic kidney disease and pacemaker presented with a strangulated caecum-containing inguinal hernia. After an emergency hernia repair and ileocolic resection, he went to the intensive care unit (ICU). He had a faecal management system placed that was removed before ward transfer on postoperative day 4. He suffered massive painless haematochezia day 5 and the massive transfusion protocol was activated. He underwent a flexible sigmoidoscopy which demonstrated multiple circumferential rectal ulcers which required endoscopic haemostasis with clips and diathermy (Fig. 1). This was thought to be pressure necrosis from the faecal management system. He rebled 36 h later and required an examination under anaesthesia (EUA) and a vessel-sealing device was used. He rebled 10 days later and required suturing. After another large bleed 3 days later, a repeat EUA showed most of the ulcers had healed but one area required diathermy and haemostatic agents (Fig. 1). Another bleed 6 days later was controlled with angiographic embolization of a superior rectal artery branch. He suffered multiple complications including acute kidney injury requiring readmission to ICU and venous thrombosis requiring anticoagulation. He was discharged to his nursing home after a 6-week admission.

A 65-year-old male with dialysis-dependent renal failure, diabetes and ischaemic heart disease was admitted with sepsis secondary to a leg ulcer. He had a large rectal bleed requiring transfusion. Computed tomography angiography demonstrated an active rectal bleed. He underwent EUA and flexible sigmoidoscopy which demonstrated circumferential rectal ulceration. A bleeding point was sutured (Fig. 2). He rebled 3 weeks later and required sigmoidoscopy and EUA however bleeding had stopped so no treatment was performed (Fig. 2). He died a month later from an acute coronary event.

Acute massive rectal bleeding from ulcers affects comorbid patients unwell in ICU.1–3 Significant haematochezia occurs in less than 1% of ICU patients and less than one-third is from acute haemorrhagic rectal ulcers (AHRU).1 Although rare, AHRU remains important as the massive bleeding requires aggressive resuscitation and endoscopic or surgical intervention.1–3 AHRU is described as large volume painless haematochezia characterized by rectal ulcers, not due to another condition.1–3 Unlike solitary rectal ulcer syndrome, these ulcers are usually multiple and circumferential (44.4% in one review).1 Histological findings are necrosis, loss of epithelium and thrombosed vessels, similar to stress-induced ulcers in the upper gastrointestinal tract and may share a pathophysiology.4

In Case 1, a faecal management system may have contributed. While the recommended balloon volume (45 mL) should not be significant given the rectum holds a greater stool volume, prolonged low pressure may ulcerate.5 In another similar reported case, the system was in situ for 22 days; in ours, it was 4 days.5

AHRU most commonly affects the elderly with comorbidities, most commonly hypertension, ischaemic vascular disease, diabetes and chronic kidney disease.2,5 Up to 75% are on blood thinners and steroids are common.3 Forty patients in one series were bedridden indicating an association with poor functional state.3

Endoscopic methods are widely reported as initial treatment including clips, diathermy and adrenaline injections or a combination with an initial haemostasis rate up to 97.2%.1–3 Transanal suturing is mostly used when endoscopic treatment fails.1,3 While angiographic embolization is reported, some suggest it is associated with a higher rate of reblooding and mortality; thus AHRU should be differentiated early from more common causes of rectal bleeding in ambulatory patients such as diverticular bleeding where angiography is often first-line.4

While endoscopic haemostasis is initially successful, up to 50% will bleed again.2–4 In one study, the only statistically significant risk factor for recurrent bleeding was four or more comorbidities.2 Prognosis is poor: the 4-week survival rate is 52.8%, however, most patients die from other causes, most commonly, sepsis.1 Over 35% experience hypovolaemic shock and over 50% require transfusion.2

The optimal management is not yet established; however, we propose some principles. Bleeding from the lower rectum can be sutured transanally but more proximal bleeding may be better...
Fig. 1. Endoscopic images from Case 1: (a) and (b) demonstrate initial endoscopic images of the rectal ulcers. (c) and (d) were taken after the third episode of rebleeding; (c) demonstrates a healed ulcer and (d) demonstrates suture in situ.

Fig. 2. Endoscopic images from Case 2: (a) and (b) demonstrate initial endoscopic images while (c) and (d) demonstrate mostly healed rectal ulcers taken 3 weeks later.
controlled endoscopically. Endoscopic clips may damage friable tissue whereas a smaller area of ulceration with less induration may be clipped or sutured. A bleed from a single vessel may be better controlled with suturing than diffuse bleeding from a large area. Pre-disposing factors such as coagulopathy need correction.

AHRU is a life-threatening cause of rectal bleeding in critically unwell comorbid patients. Early recognition and urgent treatment should be prioritized and the risk of rebleeding anticipated.

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Author contributions

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