CASE REPORT

Successful treatment of refractory midgut bleeding with octreotide and corticosteroids in a dialysis patient with suspected sarcoidosis

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SUMMARY

We present a case of severe and recurrent small-bowel bleeding, due to multiple intestinal angiodysplasias, in a female patient with chronic renal failure due to suspected sarcoidosis. Over the years, she required numerous admissions and >200 units of blood for symptomatic anaemia. However, following a small-bowel capsule endoscopy that revealed several small-bowel angiectasis, she was treated successfully with octreotide and corticosteroids. Her transfusion requirements and hospital admissions were reduced drastically. Moreover, hypercalcaemia and liver function tests also normalised after treatment and double-balloon enteroscopy confirmed the complete resolution of these angiodysplasias. This case presentation confirms the usefulness of octreotide in the management of small-bowel angiodysplasias in dialysis patients and highlights the additional benefit of corticosteroids in portal hypertension due to suspected sarcoidosis.

CASE PRESENTATION

A 54-year-old female patient presented in 1995 with severe Raynaud's disease, weight loss and microscopic haematuria/proteinuria. Renal biopsy showed patchy calcification of the renal glomeruli. Her autoantibody profile (antinuclear antibody, antineutrophil cytoplasmic antibody, topoisomerase 1, etc) was negative; corrected serum calcium was normal at 2.26 mmol/L. The patient was started on warfarin, nifedipine and prazosin and was advised to stop smoking. She also required opiates, prostacyclin infusion and electrically-heated gloves for finger lesions. Moreover, she remained on prednisolone for a whole year. Nevertheless, 2 years later, she developed infarction of the right middle finger and severe leg pain. Extensive vascular investigations failed to demonstrate any convincing obstructive arterial disease and the pain improved by phenol lumbar sympathectomy. Eventually, she developed fluctuating hypercalcaemia (corrected calcium 2.77 mmol/L) and worsening proteinuria despite normal blood pressure and renal function. A second kidney biopsy showed features suggestive, albeit not diagnostic, of sarcoidosis. In due course, her estimated glomerular filtration rate dropped below 10 mLs/min and she was started on peritoneal dialysis and later hospital haemodiafiltration.

INVESTIGATIONS

Evidence of recurrent gastrointestinal (GI) bleeding appeared first in 2011 requiring parenteral iron,

darbepoetin and transfusions. By 2015, her blood transfusion requirements exceeded 200 units. In addition to the transfusions, other measures were employed such as withholding heparin during dialysis sessions, tranexamic acid, proton pump inhibitors, famotidine and misoprostol; however, they were all ineffective. Repeated oesophagogastroduodenoscopies (OGDs) and colonoscopies failed to demonstrate a site of bleeding and apart from portal hypertensive gastropathy (PHG) no other pathology was documented. However, a small-bowel capsule endoscopy (SBCE) showed several bleeding areas from multiple small-bowel vascular ectasias (figure 1).

DIFFERENTIAL DIAGNOSIS

Bleeding: the clotting screen was repeatedly normal, and protein C and protein S deficiencies, von Willebrand factor (vWF) deficiency and factors VIII, IX, XI, XII deficiencies were all excluded. With the possibility of acquired functional vWF she received desmopressin that failed to reduce the haemorrhages or the need for transfusions. Repeated OGDs and colonoscopies, CT colonography, CT of chest/abdomen/pelvis and red cell scan, all of which revealed either normal results or only gastritis/duodenitis, a transient shallow gastric ulcer which was not sufficient to explain her persistent bleeding. Endoscopic features of PHG preceded the eventual diagnosis of multiple small angiodysplasia lesions as the source of chronic bleeding.

Hypercalcaemia: the patient did not have significant hyperparathyroidism with normal or low levels of the parathyroid hormone preceding and during the episodes of hypercalcaemia. Two sestamibi technetium subtraction scans in 2013 and 2014 and nuclear medicine CT/single-photon emission CT washout study excluded the presence of a parathyroid adenoma. Repeated bone densitometries were also normal. CT scans of brain showed bilateral cerebral calcifications in the basal ganglia and cerebellar haemispheres, and CT chest/abdomen/pelvis showed calcified aorta and calcified gallstone as well as some intrarenal calcification foci.

TREATMENT

Treatment with octreotide LAR 30 was initiated and prednisolone 60 mg was provided thrice weekly (on dialysis days for suspected sarcoidosis).

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Figure 1 Showing multiple bleeding angiodysplasia lesions on small-bowel capsule endoscopy.

OUTCOME AND FOLLOW-UP

In January 2016 double-balloon enteroscopy surprisingly showed resolution of all the lesions detected in September 2015, (figure 2). Furthermore, there was also normalisation of previous hypercalcaemia and of the liver dysfunction. Her haemoglobin is now maintained around 90 g/dL and she has not required any further blood transfusion. Furthermore, there was also normalisation of previous hypercalcaemia and of the liver dysfunction.

DISCUSSION

SBCE has improved the diagnosis of obscure GI bleeding especially in patients with chronic kidney disease.¹ In this context, treatment of small-bowel angiodysplasias could be also difficult as these lesions are usually multiple and difficult to access

endoscopically. Moreover, the rebleeding rate from these angiodysplasias ranges between 14% and 70% within 1–3 years.^{2,3} In 1991, Torsoli first reported the use of octreotide, a somatostatin analogue, for the treatment of bleeding from diffuse small-bowel angiodysplasias,⁴ since then various reports have confirmed its effectiveness.^{3,5} Octreotide has specific GI effects by inhibiting endocrine secretions and also inhibits angiogenesis.^{6,7} Chronic kidney and liver disease predispose to small-bowel angiodysplasias.¹ Bleeding from these lesions can be a serious problem in haemodialysis patients as they require intermittent heparin and functional abnormalities such as vWF deficiency in renal failure also exacerbates bleeding from these angiodysplasias.⁸ Octreotide has shown to significantly reduce the blood transfusion requirements in patients with chronic renal failure.⁹ Long-acting monthly preparations are effective and comparable

Figure 2 Double-balloon enteroscopy showing resolution of angiodysplasia lesions.

to daily injections with greater patient acceptability and much easier management of these already complicated treatment regimes.¹⁰ Systemic sarcoidosis usually involves liver in up to 70% of cases. Most of these patients are asymptomatic; however, in some cases it can cause portal hypertension (PH) without liver cirrhosis.¹¹ The case we presented here had documented multiorgan calcifications (kidneys, aorta, brain and cerebellum) and intermittent hypercalcaemia all consistent with systemic sarcoidosis. Endoscopic features of PH preceded the eventual diagnosis of multiple small angiodysplasia lesions as the source of chronic bleeding. Response to simultaneous use of octreotide and prednisolone suggests that most likely these angiodysplasias were due to systemic sarcoidosis and treatment of this condition led to rapid and complete healing of the these lesions. Although corticosteroids are a known risk factor for GI haemorrhage they are the treatment of choice for sarcoidosis and probably contributed to the improvement of clinically relevant PH.^{12–13} In addition the patient was not transfusion-dependent and did not require any hospital admission.

We present an interesting case of chronic severe obscure GI haemorrhage that required small capsule endoscopy to demonstrate multiple bleeding angiodysplasias. The impressive effect of octreotide LAR in stopping the haemorrhage was associated to complete healing of these lesions that had presumably been present for few years. In addition, we cannot exclude that the use of corticosteroids prescribed for sarcoidosis could have also contributed to this healing and liver function improvement.

Learning points

- ▶ Small-bowel capsule endoscopy is essential in obscure gastrointestinal bleeding.
- ▶ Profuse bleeding from small-bowel angiodysplasia is difficult to treat.
- ▶ Chronic angiodysplasia lesions can stop bleeding on treatment with octreotide.
- ▶ Chronic angiodysplasia can disappear with the improvement of portal hypertension.
- ▶ Sarcoidosis can cause portal hypertension and is amenable to treatment.

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Competing interests None declared.

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