CASE REPORT

Superior Mesenteric Artery Thrombosis in a Patient with the Antiphospholipid Syndrome

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Introduction

Superior mesenteric artery thrombosis occurring in a patient with the antiphospholipid syndrome (APS) has been reported only once previously, in a woman taking the oral contraceptive pill, and who had systemic lupus erythematosus. We describe a previously asymptomatic male patient.

Case Report

A 17-year-old male smoker presented acutely with a 3 week history of worsening suprapubic pain associated with dysuria, 10 kg weight loss and anorexia. He had undergone treatment for 1 week with antibiotics for a presumed urinary tract infection. He did not improve. His previous health had been good.

On examination he had lost weight and was grossly dehydrated. He was apyrexial but had a pulse rate of 100 beats/min. His blood pressure was 120/80 mmHg. The abdomen was diffusely tender, especially suprapubically. Bowel sounds were scanty. On rectal examination there was a tender mass palpable within the rectovesical pouch.

The results of investigations included: haemoglobin 18.3 g/dl, white cell count $27 \times 10^9/\text{l}$ (88\% neutrophils), sodium 114 mmol/\text{l}, potassium 4.8 mmol/\text{l}. Urine examination revealed moderate proteinuria and $40 \times 10^6$ red cells/\text{l}. Chest and abdominal X-rays were unremarkable.

He was resuscitated with intravenous fluids and antibiotics. Laparotomy revealed approximately 100 cm of infarcted small bowel extending from the mid-jejunum to the ileum. The main trunk of the superior mesenteric artery was non pulsatile. Though the proximal jejunum appeared well perfused, the distal ileum was dusky with absent pulsation within the mesentery. The overtly necrotic bowel was resected and both ends exteriorised. A central venous feeding line was inserted. He was started on subcutaneous low molecular weight heparin.

Perioperative blood samples taken into citrate anticoagulant indicated the presence of anti-cardiolipin antibodies (ACLA) (IgG type 42 U/ml; normal < 10 U/ml) and the presence of a lupus anticoagulant (LA) (Diluted Russell Viper Venum Time 1.5 ratio, Kaolin Cephalin Time 1.4 ratio). Low protein S activity and free antigen levels were considered to be secondary to the acute illness. Antithrombin III, protein C activity and antigen, plasminogen and heparin cofactor II levels were normal. Repeat blood testing confirmed the presence of ACLA and LA. As expected protein S levels normalised. The ACLA has remained positive for the 3 months of follow-up. Assays for the antinuclear factor and rheumatoid factor were negative. Histology of the resected bowel showed no evidence of vasculitis.

Postoperatively he was anticoagulated with heparin. An echocardiograph revealed a normal myocardium. Prior to reanastomosis superior mesenteric artery (SMA) angiography was performed. This confirmed occlusion of the main stem of the SMA approximately 6 cm from its origin (Fig. 1) and showed no evidence of any intrinsic abnormality within the abdominal aorta.

The remaining bowel, now well vascularised, was
reanastomosed (day 27) and he was discharged home on warfarin after an uneventful recovery.

Discussion

This 17-year-old man developed an SMA thrombosis and on repeated testing was found to have both LA and IgG ACLAs. These findings are consistent with the APS. Venous and arterial thrombosis are the hallmarks of this syndrome though, for reasons unexplained, it is extremely rare for the SMA to be involved. Thrombosis in the APS is poorly understood. The balance of evidence favours interference with the formation of prostacyclin in the endothelial cells by the anti-cardiolipin antibodies or by associated endothelial antibodies. This raises the possibility that the rarity of thrombosis within the SMA could be due to relatively high prostacyclin production at this site. This would not protect against thrombosis due to antithrombin III deficiency.

Previous studies would suggest management by lifelong warfarin therapy. Other methods of treatment have, as yet, no proven benefit. As the APS increases in frequency with age, it is possible that this diagnosis is more common than previously thought (mesenteric ischaemia in older patients being assumed to be due to occlusive arterial disease). Screening of patients with mesenteric ischaemia for LA and ACLA may identify further cases. This emphasises the need for adequate thrombophilia screening in young patients presenting with arterial occlusion.

References


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