An unusual cause of acute mesenteric ischaemia

CLINICAL INTRODUCTION

A 50-year-old woman, smoker, with a body mass index of 29 kg/m^2, presented to the emergency department with a history of sudden-onset abdominal pain localised to the left hypochondrium and the left lumbar region. The pain was severe, sharp and constant, and was associated with nausea and vomiting. Physical examination revealed tenderness in the left upper quadrant and epigastrium and hypoactive bowel sounds. Blood tests revealed leucocytosis (17.5×10^9/L). An abdominal CT with intravenous contrast showed acute mesenteric ischaemia. An ECG and cardiac monitoring showed normal sinus rhythm, and a transthoracic two-dimensional echocardiogram showed no evidence of general cardiac pathology or valvular heart disease, excluding a cardiac source of emboli. A CT angiography was performed to clarify the aetiology of intestinal ischaemia (figures 1–3).

QUESTION

Which of the following is the most likely diagnosis?

A. Aortic acute dissection
B. Thrombus of the non-aneurysmatic and non-atherosclerotic descending thoracic aorta
C. Takayasu's aortitis
D. IgG$_4$-related thoracic aortitis

ANSWER: B

Thrombus of the non-aneurysmatic and non-atherosclerotic descending thoracic aorta.

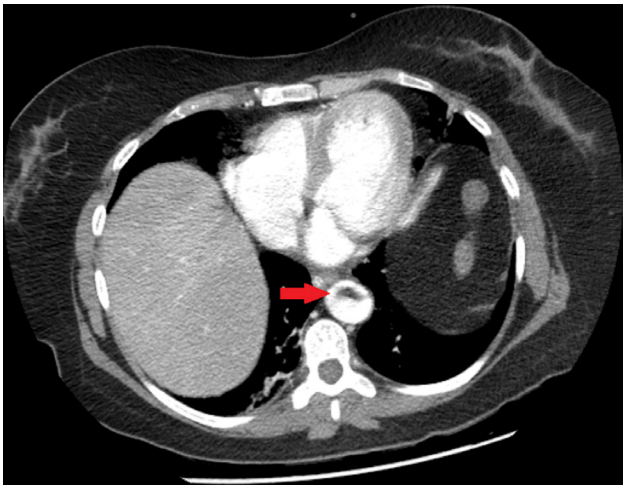

Figure 1 CT angiography, axial view. The red arrow shows an abnormal finding within the descending thoracic aorta.

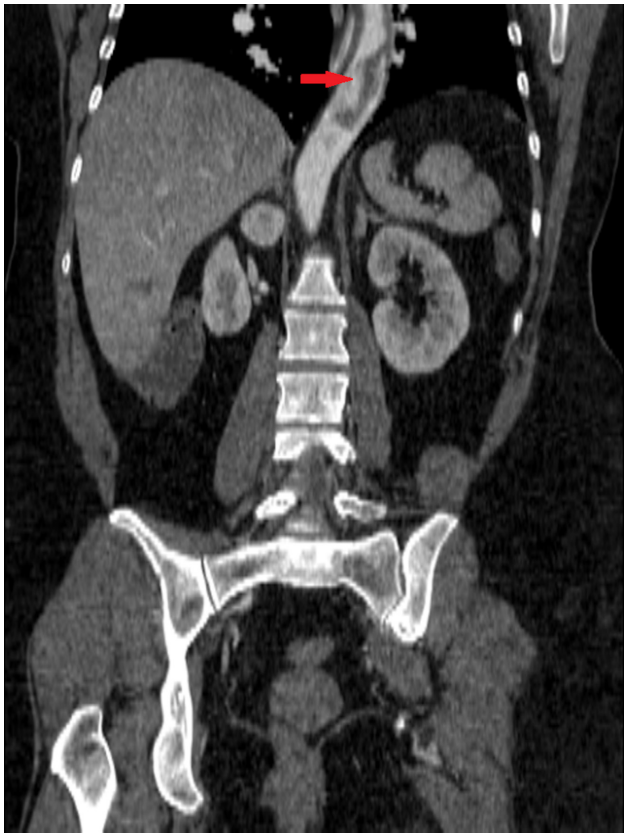

Figure 2 CT angiography, coronal view.

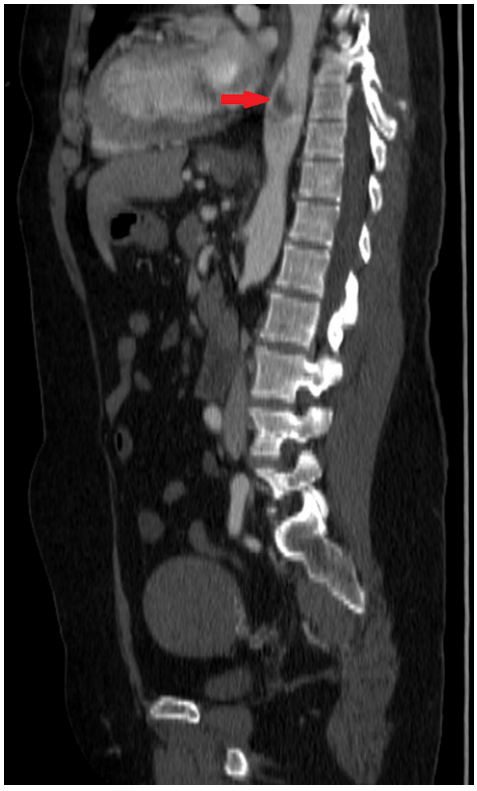

Figure 3 CT angiography, sagittal view.

The CT angiography displayed a large mobile thrombus of the non-aneurysmatic and non-atherosclerotic descending thoracic aorta (NAADTA).

DISCUSSION

Embolism to the mesenteric arteries is most frequently due to dislodged thrombus from the left atrium, left ventricle, cardiac valves or atherosclerotic and/or aneurysmatic proximal aorta.

Thrombus formation in a morphologically normal aorta is a rare event. In most cases, the thrombus is located in the descending thoracic aorta, although the presence of thrombus in the arch as well as in the abdominal aorta has been described. It represents an underdiagnosed medical entity which could potentially explain many cases of cryptogenic embolism.[1]

The aetiology of thrombus formation in a macroscopically normal aorta is not well understood. A correlation with underlying malignant disease, hypercoagulable disorders, primary endothelial disorders or even iatrogenic causes has been suggested. A thorough work-up for inherited and acquired thrombophilia should be performed in all patients with thrombus in the NAADTA.

There are no standardised guidelines for the diagnosis of thrombotic NAADTA. Transoesophageal echocardiogram is effective in confirming and locating the thrombus, in characterising the macroscopic appearance of the aortic wall and the implantation base of the mural thrombus, although sometimes underestimating its size. Of other less invasive methods, CT is less sensitive, and magnetic resonance yields more false-positive results.

No clear guidelines exist regarding the optimal management. Intravenous heparin followed by long-term oral anticoagulation is generally considered the first-line therapy.[1] The optimal anticoagulation duration and the target international normalised ratio (INR) in patients on warfarin are unknown. The role of novel oral anticoagulants in this setting remains untested. Surgical intervention is reserved for patients with contraindications to long-term anticoagulation or those who fail conservative management with repetitive embolic events.[2] Factors that may warrant surgical intervention include thrombus location and morphology.

Our patient was treated with heparin and long-term oral anticoagulation. Two weeks later, a CT angiography showed complete resolution of the thrombus. Despite an extensive search for inherited and acquired thrombophilic factors, no clear aetiology was identified.

Giovanni Perricone,[1,2] **Rosa G Simonetti**[3]

[1]Hepatology and Gastroenterology Unit, Azienda Socio Sanitaria Territoriale Grande Ospedale Metropolitano Niguarda, Milano, Italy
[2]Liver Failure Group, University College London, UCL Institute for Liver and Digestive Health, UCL Medical School, Royal Free Hospital, London, UK
[3]Palermo, Italy

Correspondence to Dr Giovanni Perricone, Hepatology and Gastroenterology Unit, Azienda Socio Sanitaria Territoriale Grande Ospedale Metropolitano Niguarda, Milano 20162, Italy; giovanniperricone@gmail.com

Contributors GP and RGS diagnosed and managed the case. GP prepared the manuscript.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; externally peer reviewed.

To cite Perricone G, Simonetti RG. *Frontline Gastroenterology* Epub ahead of print: [please include Day Month Year]. doi:10.1136/flgastro-2019-101229

Received 14 March 2019
Revised 15 April 2019
Accepted 25 April 2019

Frontline Gastroenterology 2019;**0**:1–2. doi:10.1136/flgastro-2019-101229

REFERENCES

1 Tsilimparis N, Hanack U, Pisimisis G, *et al*. Thrombus in the Non-aneurysmal, Non-atherosclerotic descending thoracic aorta – an unusual source of arterial embolism. *Eur J Vasc Endovasc Surg* 2011;41:450–7.
2 Dhillon P, Murdoch D, Jayasinghe R, *et al*. A case of mobile aortic arch thrombus with systemic Embolisation—A management dilemma. *Heart Lung Circulation* 2014;23:e88–91.