

CASE REPORT

BEGINNER

CLINICAL CASE

Successful Conservative Treatment of Mobile Aortic Thrombus Causing Acute Limb Ischemia



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ABSTRACT

In this clinical vignette, we present the case of an 83-year-old female patient with acute limb ischemia, resulting from a large (1.8 × 2.8 cm) mobile thrombus in the descending aorta. The peripheral obstruction was treated with mechanical thrombectomy, whereas the intra-aortic thrombus was treated conservatively with clopidogrel and fondaparinux. (Level of Difficulty: Beginner.) (J Am Coll Cardiol Case Rep 2023;11:101770) © 2023 The Authors. Published by Elsevier on behalf of the American College of Cardiology Foundation. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

HISTORY OF PRESENTATION

We present a case of an 83-year-old female patient, who presented with acute limb ischemia (ALI) Rutherford category IIA. The foot of the patient was pale and pulseless, and duplex sonography revealed thrombotic arterial occlusion. The patient did not

have a compartment syndrome, and myonecrosis with creatine kinase enzyme release was excluded.

MANAGEMENT OF FOOT ISCHEMIA

Reperfusion was promptly performed (day 1) using rotational thrombectomy, resulting in brisk flow to the foot (Video 1).

INVESTIGATIONS FOR THE ORIGIN OF FOOT ISCHEMIA

Holter electrocardiography showed no arrhythmias, but transesophageal echocardiography (TOE) (day 3) identified a large mobile thrombus (1.8 × 2.8 cm) in the descending aorta (Figure 1A) attached to the aortic wall by a thin peduncle. The presence of thrombus in the left atrial appendix and of an atrial septal defect were excluded.

Computed tomography angiography (CTA) (day 6) confirmed the presence of thrombus in the descending aorta (Figure 1B). Cancer screening

LEARNING OBJECTIVES

- Peripheral arterial embolism has a multitude of potential etiologies.
- If atrial fibrillation and significant atherosclerotic disease can be excluded, uncommon causes and sources of arterial embolism must be investigated.
- Conservative anticoagulation treatment may be the first treatment option for aortic thrombus in the descending aorta, especially in older patients.

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**ABBREVIATIONS
AND ACRONYMS****ALI** = acute limb ischemia**CTA** = computed tomography angiography**TOE** = transesophageal echocardiography

results were negative by gastroscopy and colonoscopy, and no tumor could be detected in visceral organs by thoracic and abdominal CTA.

**MANAGEMENT OF THE
AORTIC THROMBUS**

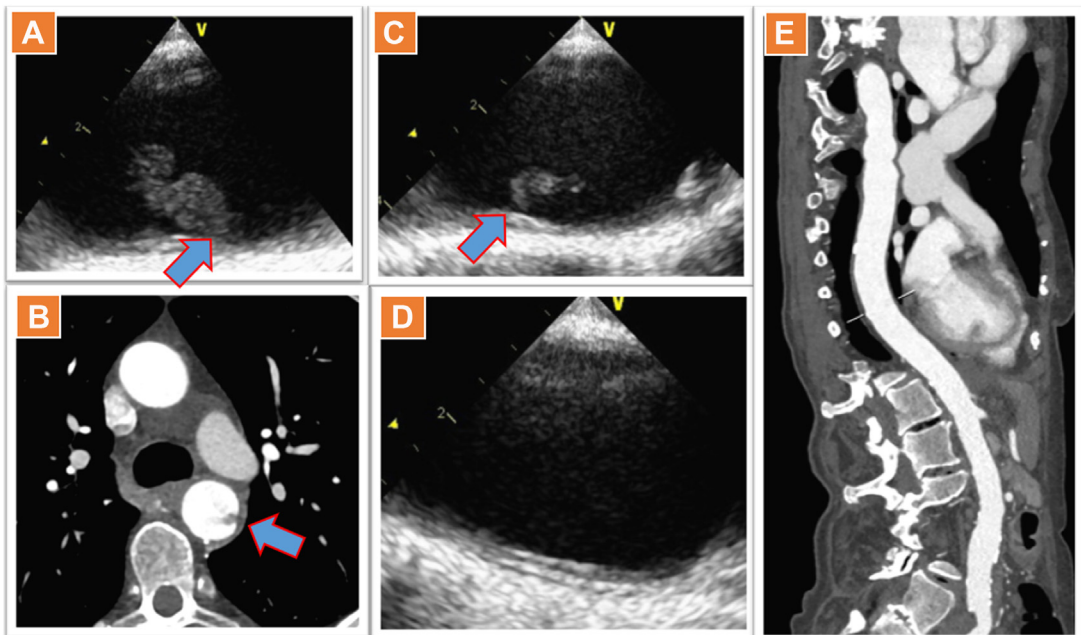
Anticoagulation was initiated with fondaparinux 5 mg once per day accompanied by clopidogrel 75 mg per day, the latter because of the prior thrombectomy and angioplasty treatment. TOE examination 1 week after the first TOE (day 10) revealed significant reduction of the thrombus size (0.8×1.8 cm) (Figure 1C). Therefore, anticoagulation was continued, and the patient was discharged on day 10. On day 17, control TOE exhibited complete resolution of the thrombus (Figure 1D, Video 2), which was also confirmed by CTA (Figure 1E). The patient was then set on oral anticoagulation (15 mg of rivaroxaban once a day), and clopidogrel was continued.

DISCUSSION

To our knowledge, this is the first case describing prompt resolution of a large aortic thrombus by means of ALI during treatment with fondaparinux and clopidogrel for only 2 weeks.

The incidence of ALI is about 0.015% annually and is associated with high amputation and mortality rates.¹ Most of the thromboembolic events associated with arterial occlusion originate from the heart, usually being linked to atrial fibrillation.² However, other uncommon causes, such as aortic thrombi, also need to be considered in such patients.

The treatment of the aortic thrombi encompasses surgical excision, hybrid treatment or oral anticoagulation based on the anatomic localization of the thrombi, and patient-specific parameters.³ In our case, because of the older age of the patient, we primarily chose a conservative treatment strategy. Pharmacologic substances such as fondaparinux appear as potent options for the treatment of thrombi

FIGURE 1 Transesophageal Echocardiography and Computed Tomography Angiography Examinations

(A) Transesophageal echocardiography (TOE) identified a large mobile thrombus (1.8×2.8 cm) in the descending aorta of the patient, which (B) was confirmed by computed tomography angiography. (C) TOE 1 week later revealed significant reduction of the thrombus size (0.8×1.8 cm), whereas (D) follow-up TOE after another week exhibited complete resolution of the aortic thrombus, which (E) was again confirmed by computed tomography angiography.

in large vessels. The clinical course of the patient was uneventful after 3 months without ischemic symptoms or functional deficits of her limb.

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KEY WORDS computed tomography, peripheral circulation, peripheral vascular disease, thrombus

APPENDIX For supplemental videos, please see the online version of this paper.