



Letter to the Editor

Whipple's endocarditis diagnosed by thrombus analysis retrieved by successful mechanical thrombectomy



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Dear editor

Patients with stroke secondary to infectious endocarditis have a high in-hospital morbidity and mortality [1,2]. In this context, Whipple Endocarditis diagnosis remains challenging [3,4] as blood cultures are usually negative, therefore the diagnosis is generally performed on PCR or histologic examination of the resected heart valve tissue [3,5,6]. The use of thrombolytic and anticoagulant therapy in infectious endocarditis has always proved challenging [2]. We report a case of Whipple Endocarditis leading to a proximal embolic stroke successfully treated by mechanical thrombectomy. The removed clots were analyzed and positive PCR for *Tropheryma whipplei* permit the diagnosis of Whipple Endocarditis since systemic research of the bacteria failed. Our patient was treated with antibiotics without valve replacement.

1. Case report

A 70-year-old woman with mitral stenosis with atrial fibrillation was admitted to a cardiological unit due to a persistent fever for 15 days and progressive asthenia without any other respiratory or cardiovascular symptom. An outpatient transthoracic echocardiography suspected small aortic vegetation (Fig. 1-A). Blood cultures were performed and probabilistic dual intravenous antibiotherapy was administered. The clinical course was marked by acute headaches and neck stiffness at day 4. A brain MRI founded a lenticulostriate infarct with hemorrhagic transformation, leading to anticoagulant interruption (day 12). At day 15 she developed an acute left sided weakness. CT-Angiography performed within the first 2 h revealed a proximal thrombotic occlusion of the right internal carotid artery associated with proximal occlusion of the right middle cerebral artery (Fig. 1-B). Pre-treatment NIHSS score was 10. Angiography confirms the occlusions (Fig. 1-C). The patient benefited from a first internal carotid thromboaspiration and stent retriever MT in the middle cerebral artery which permitted to retrieve two large clot (Fig. 1-D). The recanalization was successful (Fig. 1-E) and post-procedural NIHSS score was 1. The clot samples were subjected to histologic and bacteriologic analysis. The PCR analysis directly on the clot revealed the typical DNA sequences of *Tropheryma Whipplei* which allowed the administration of an appropriate antibiotic therapy followed by a full clinical recovery. Upon

follow up transthoracic echocardiography, earlier suspected vegetation has cleared. At 90 days, modified Ranking score of the patient was 1. MRI did not show significant damage within middle cerebral artery (Fig. 1-F).

2. Discussion

The positive diagnosis of Whipple's endocarditis is always challenging as the exclusive cardiac localization of the disease is exceptional [3,5,6]. The specific *Tropheryma Whipplei* PCR is essential due to the fact that blood cultures are usually sterile [3,6]. The analysis is mainly based on the histological study of the valve and the specific *Tropheryma Whipplei* PCR analysis. The latter is done upon open-heart surgery [3,6]. Because the surgical indication of valve replacement depends on hemodynamic criteria, there is not always an indication for it and the associated valve biopsy. Thus the infectious etiology may not be uncovered and patients would not receive appropriate therapy [1,3,6].

In line with Scharf et al., mechanical thrombectomy of large vessel occlusion allow an effective management of septic embolism [7]. Additionally, *T. whipplei* infection is the most common agent seen in isolated culture-negative endocarditis. In these localised infections, Whipple's disease can only be identified by histological or PCR analysis of affected extra-intestinal organs [8]. In contrast to previously published cases, the originality of our observation lies in the fact that the diagnosis of rare Whipple endocarditis has been unprecedentedly made from the retrieved thrombus analysis, after a successful mechanical thrombectomy.

This case confirms the need of clot analysis for the early identification of infectious pathogenic agent patients with proximal stroke secondary to endocarditis. Alternatively valvular biopsy in the absence of a clot may be needed.

Conflict of interest

The authors declare no conflict of interest.

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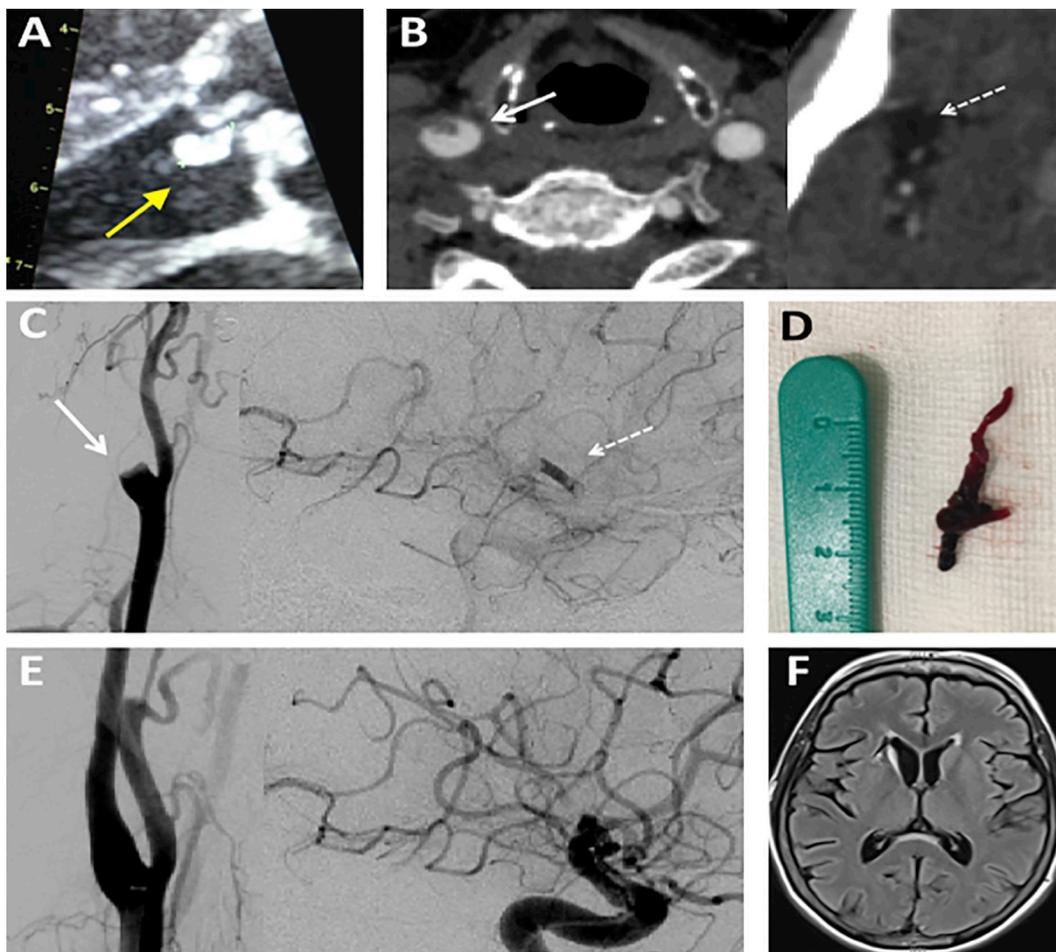


Fig. 1. A) Mode B transthoracic echocardiography show a small vegetation (yellow arrow on the aortic valve) on the aortic valve. B) Cervical and cranial axial images of an Angio CT showing luminal defect within the right cervical carotid (white plain arrow) and distal middle cerebral artery (white dotted arrow) diagnosing the vascular occlusion. C) Right common carotid artery angiography showed a complete occlusion of the internal carotid artery (white plain arrow) and distal middle cerebral artery occlusion (white dotted arrow). D) Macroscopic view of the large removed clot sent to analysis. E) Full recanalization of right internal carotid artery. F) At 3 month MRI, axial fluid-attenuated inversion recovery images showed mild residual infarct with deep right middle cerebral artery territory.

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This case confirms the need of clot analysis for the early identification of infectious pathogenic agent in patients with proximal stroke secondary to endocarditis. —Please comment on the role of valvular biopsy in the absence of a clot. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

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