

Reply to “Management of left ventricular thrombosis in patients with apical aneurysm”

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In their reply, Yalcinkaya and coworkers constructively commented on our case report in a letter entitled “Management of left ventricular thrombosis in patients with apical aneurysm” [1].

The authors reported that left ventricular thrombosis (LVT) in patients with an apical aneurysm carries a high risk of embolisation, and that heparin and warfarin administration and thrombolysis could induce the detachment of the LVT from the myocardial wall during recovery of apical wall motion abnormalities. Interestingly, they suggested considering thrombectomy in order to avoid further embolisation in patients with a massive, protruding, fresh thrombus and a history of embolisation.

At present, the management of LVT in apical ballooning syndrome (ABS) is mainly based on single reports and case series, and no consensus or current guidelines exist.

The recent European Society of Cardiology (ESC) Guidelines for the management of acute myocardial infarction (AMI) in patients presenting with ST-segment elevation and LVT recommend the use of oral anticoagulant therapy with a vitamin K antagonist for up to 6 months, once mural thrombus is diagnosed. Repeated imaging of the left ventricle after 3 months of therapy may allow discontinuation of anticoagulation earlier than 6 months, if evidence of thrombus resolution and recovery of apical wall motion abnormalities are present [2]. Kurisu and coworkers reported that LVT occurred in 5.3% of patients with ABS. In particular, in this case series LVT was documented on admission in one patient, and on follow up in four patients; the thrombus was mural in two (40%) and protruding in three (60%), and each was treated with anticoagulant therapy. In only one patient, with protruding thrombus, brain infarction occurred the day after the initiation of anticoagulant therapy [3]. De Gregorio reported cardioembolic outcomes in stress-related cardiomyopathy complicated by LVT in a systematic review of 26 clinical studies. In almost all of these studies, LVT was successfully treated with anticoagulation, and surgery was never considered a therapeutic option for the patients [4].

To our knowledge, only Seitz and coworkers reported a case of a protruding LVT, in a patient with ABS and contraindications to anticoagulant therapy, in which the thrombus was removed via a left apical ventriculotomy [5].

In our case [6], systemic embolism first occurred at admission, during the acute phase, when the thrombus was mural, anticoagulant therapy had not been instituted and embolism was clinically evident, with acute leg ischaemia requiring Fogarty balloon thrombectomy. The second episode occurred during recovery of the apical aneurysm, when the thrombus was protruding and anticoagulant therapy had been started. At this time, acute left arm ischaemia resolved after optimal anticoagulant therapy. On the basis of these observations, we believe that the dynamic, fast recovery of apical aneurysm and left ventricular dysfunction promote LVT detachment and embolism, independently of anticoagulant therapy.

In addition, it has to be considered that the prognosis of ABS appears to be good at long-term follow-up [7]. It is also known that LVT can occur during the early phase, owing to acute apical ballooning and left ventricular dysfunction. Although ABS mimics anterior AMI, the clinical course of LVT in ABS and in AMI is quite different, as we described in our report [6].

Therefore, because open-chest surgical thrombectomy and left ventriculotomy themselves present an additional risk of complications [8], especially in the setting of elderly female patients with ABS and acute severe left ventricular dysfunction, we believe that these procedures should be approached with great caution in routine practice and are potentially appropriate only in extremely selected cases.

Key words: *Takotsubo cardiomyopathy; thrombosis; thromboembolism*

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Letter to the Editor:

<http://www.smw.ch/content/smw-2013-13866/>

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