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### More fresh thrombi in cardio embolic than vascular related acute vessel syndromes

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**Background:** Acute thrombotic occlusion may lead to major life threatening syndromes such as ST elevation myocardial infarction (STEMI) or stroke. In the majority, the underlying pathophysiology may be related to local vascular factors or thrombotic emboli. Thrombus composition might be indicative of underlying etiology and affect therapeutic considerations. Comparison of thrombi of patients suffering from both these acute syndromes has not been made yet. In this study, we compared the “age” of thrombi of patients with STEMI and acute large vessel occlusion related stroke (LVOS).

**Methods and results:** A total of 126 consecutive patients underwent thrombectomy for either STEMI (n=51) or LVO (n=75). All STEMI patients had vascular related occlusions. Causes of LVOS were classified according to the TOAST criteria; i.e. large artery atherosclerosis (LAA), cardio

embolic (CE), other determined and embolic stroke of unknown source. Aspirated material was histopathological ordered as fresh (<1 day old), lytic (1–5 days old) or organized (>5 days old). In general, thrombi of patients with LVOS were fresher compared to thrombi of STEMI patients (p=0,04). This difference is can be attributed mainly to CE patients, which had significantly younger thrombi (p=0.001). Thrombi of LAA had comparable age with thrombi of STEMI (Figure).

**Conclusion:** Thrombi of cardio embolic stroke are fresher compared to that of thrombi of atherosclerotic related stroke. The latter have thrombi with comparable age of that with thrombi of ST elevation myocardial infarction. These findings may have therapeutic implications in anti-thrombotic therapies.

