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**When time onset of stroke is uncertain: combined TCCD and perfusion CT approach for patient selection to reperfusion therapy**Malferrari G<sup>1</sup>, De Berti G<sup>2</sup>, Dallari A<sup>1</sup>, Nucera A<sup>1</sup>, Zedde M<sup>3</sup>, Casali G<sup>4</sup>, Nicoli F<sup>5</sup>, Vecchiati E<sup>4</sup><sup>1</sup>Neurology Stroke Unit , Arcispedale Santa Maria Nuova , Italy<sup>2</sup>Neuroradiology , Arcispedale Santa Maria Nuova, Italy<sup>3</sup>Emergency Medicine , Arcispedale Santa Maria Nuova, Italy<sup>4</sup>Vascular Surgery , Arcispedale Santa Maria Nuova, Italy<sup>5</sup>Radiology , Arcispedale Santa Maria Nuova, Italy

Our patient is a young woman 29 years old, with a past medical history significant for a lymphoblastic leukemia at the age of four years, treated with chemo- and radiotherapy, and a hypokinetic cardiomyopathy caused by adriamicin, for which she is in a heart transplant list. She was found by her mother in the bathroom with aphasia and right hemiplegia; time of symptom onset is uncertain and the patient was not able to tell it. The CT scan of head showed an acute lesion in the deep left middle cerebral artery territory and effacement of convexity sulci. In the Stroke Unit of the Arcispedale Santa Maria Nuova of Reggio Emilia, we performed an ultrasound scan of the SupraAortic Trunks, that was normal, and a Transcranial Colour Coded Duplex Sonography, that showed an occlusion of the left middle cerebral artery from its origin. We also performed an contrast ultrasound perfusion study of the cerebral parenchyma, with result of a wide area of hypoperfusion in the left middle cerebral artery supply zone. In order to verify if there was any opportunity of acute treatment, because iv thrombolysis was contraindicated by uncertainty of time onset and by the presence of early ischemic changes for more than 1/3 of the middle cerebral artery territory, we choose to make a contrast CT of the head with the perfusion/diffusion software. We found a significant mismatch in the cortical territory of left middle cerebral artery with luxury perfusion. Therefore we used an intraarterial thrombolytic approach with rtPA microbolus infusion into the middle cerebral artery thrombus. At twelve hour left middle cerebral artery was patent and the patient was awake, mildly aphasic and with a right hemiparesis, mainly crural. In the subsequent days her neurological deficit was more and more mild, she was walking and not aphasic. The combined approach with TCCD and perfusion CT is able to extend the indication for thrombolytic therapy in acute stroke patients.

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**Odontalgia as a onset symptom of a dramatic spontaneous cerebroafferent vessels dissection**Malferrari G<sup>1</sup>, Dallari A<sup>1</sup>, Nucera A<sup>1</sup>, Zedde M<sup>2</sup><sup>1</sup>Neurology Stroke Unit, Arcispedale Santa Maria Nuova, Italy<sup>2</sup>Emergency Medicine , Arcispedale Santa Maria Nuova, Italy

Spontaneous dissection of the extracranial carotid and vertebral artery is an increasingly diagnosed cause of stroke, especially in young adults. Dissection of multiple extracranial vessels is extremely uncommon and usually associated with a dramatic neurological deficit. We are presenting the case of a young man, 42 years old, with a past history of arterial hypertension on pharmacological treatment, who complained from about one month onset of left inferior odontalgia, subsequent aspecific headache and tinnitus at the right side of the head. In this phase a CT scan of the head was normal. One month after the patient went to our observation for the abrupt onset of mild right faciobrachial deficit. At that point we performed an ultrasound examination of the supra aortic trunks and of the cerebral vessels (by Transcranial Colour Coded Duplex Sonography) and we found the following data: on the right common carotid artery at the bifurcation an abnormal flow spectrum with an increased sistodiastolic ratio, on the right internal carotid artery and abnormal refill colour flow pattern with high resistance flow and distal accelerations, at the right vertebral artery homogeneously increased flow velocity, at the left internal carotid artery stump flow, at the left vertebral artery change of the flow spectrum from one intervertebral space to another. This abnormal pattern was completed by TCCD findings of widespread vasodilation and focal flow accelerations at the carotid siphon, at the communicating vessels and in the posterior circulation. The diagnosis of multiple vessel dissection was confirmed by magnetic resonance angiography and by digital subtraction angiography. CT scan of the head demonstrated a small ischemic lesion in the left frontal lobe. Prompt anticoagulation was instituted, and the patient had gradual and complete resolution of symptoms within about twenty days. Both US and MRA at 30 dd showed a markedly improved vascular condition and a trend toward aneurysms.