preserved cerebrovascular reserve (CVR) on distal right VA and steal (-83.67%) on the proximal one, and reduced CVR on the inverted rigt PCA P1 in lying down position. Instead in sitting position Diamox test shown reduced steal in proximal right VA (-29.76%) and right PCA P1 steal from middle cerebral artery by right posterior communicating artery (CoP). Three days after the patient underwent to PTCA + stenting of right SA stenosis with residual, non significant stenosis and normalized flow direction on ispilateral VA. Since endovascular treatment the patient's complaint disappearted and any positional trigger was not reproducible. At three days from revasculatization another TCCD + Diamox test was performed showing normalized flow direction on right VA with partial distal steal in lying down position and partial steal in proximal and distal segments in sitting position. Right VA CVR improved in the proximal segment, albeith still stealing (-9.75%), in lying down position; instead in sitting position right VA CVR was normalized by stealing from PCA P1. In our known this is the first report of subclavian steal syndrome symptomatic for bulbar TIAs on positional ground and TCCD + Diamox test was able to show the complex hemodynamics of the posterior circulation and to follow the change and identify the timing of its normalization after SA revascularization. In our opinion any other tool could not give us the same data.

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Improvement of Cerebrovascular Reserve in Type II Diabetes Mellitus on Atorvastatin therapy

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The vasodilatory ability of cerebral vessels is impaired in long-standing diabetes mellitus. Vasodilatory ability is also improved by pravastatin therapy in patients with cerebral small vessel disease and in healthly subjects. The present study investigates the effects of atorvastatin therapy on vasomotor reactivity and reserve (CVR) in a subset of patients with type II diabetes mellitus (NIDDM) using Transcranial ColorCoded Duplex sonography (TCCD) and Diamox test. In six patients (age 60.33±4.24 years, 3 males and 3 females) with recent diagnosis (less than two year) of NIDDM and clinical indications for statin therapy, CVR was tested by injection of acetazolamide 1 g iv and TCCD insonating middle cerebral artery (MCA M1 and M2), anterior cerebral artery (ACA A1 and A2), posterior cerebral artery (PCA P1, P2 and P3) and vertebral artery (VA V4) on both sides. Blood flow velocity measurement was made on these vessels before and 30 days after onset of atorvastatin therapy (10 mg daily). No significant differences have been found in CVR on PCA, ACA, VA and MCA M1. But there is a significant difference in CVR on MCA M2 (p 0.0388; Wilcoxon rank test for paired data). Correlation testing was significant for total cholesterol and MCA M2 CVR at 30 days (r = 0.0101, CI 95% -0.92 0.92; p = 0.020). This is the first study using Diamox test with TCCD and therefore calculating CVR on all basal cerebral vessels. It is the first performed on NIDDM patients only. Furthermore it is the first using atorvastatin. In this small sample atorvastatin improves CVR on MCA in M2 segment only. A non significant trend toward CVR improvement was also evidentiated in ACA A2 and PCA P2 and P3, like a peripherization of cerebral circulation. This result may help to elucidate the pathophysiology of small vessel disease associated with diabetes mellitus and the protective effect of statin therapy on vessel wall.

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Survey of M.E.S. during the procedures of application of stent for stenosis of the extracranial internal carotid artery.

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The spread of procedures of neuroradiology, in alternative to the surgery of cerebro-afferent vessels, places the necessity to monitor the microembolic events (MES) that are come true. In the application of stent we have isolated various stages: 1) the introduction of the catheter with direct puncture of the right-sided femoral artery, 2) the introduction of contrast medium, 3) the passage of the device for the treatment of the stenosis, 4) the passage of the protection's filter in order to inhibit the arrival of microembolus in to the intracranial circle, 5) the distension of the stent, 6) the liberation of the catheter.We recorded, in neuroradiological room, n°10 pz, 5 females and 5 male, with age comprised 65+/-5, with DWL MultiDop X2 equipment, MARK 600 of the Spencer Technologies with 2 probes of 2 MHz, bilaterally, positioned on the Middle Cerebral Artery. The radiological procedures was 35-50 min long, the recording Doppler 45-60 min. The survey program on-line by DWL, has been executed with acquisition's threshold and maximum of the instrumentation's sensibility of 9 dB. The analysis off-line has been tested about sensibility and possibility of being reproduced, with threshold's values to 9 dB, 15 dB, 20 dB, for every phase of the indicated procedure-on. We noted that the maximum number of MES on the MCA have been determined from the introduction, by manual pressure, of the contrast medium, with values of 200+/-400 recorded events. The introduction of the catetere/guida in femoral has shown 2+/-6 events that have not been estimated like microemboli. The passage of the stent, of the protection filter, the filter's opening and the stent's expansion has shown, altogether, from 4 to 40 events, that have been estimated like compatible with microembolic signals.

References:

Ringelstein E.B., Droste D.W., Babikian V.L., Evans D.H., Grosset D.G., Kaps M., Markus H.S., Russel D., Siebler M. Consensus on microembolus detection by TCD. International Consensus Group on Microembolus Detection. Stroke 1998; 29 (3): 725-729.