

## World Stroke Conference (WSC) 2010, Seoul, South Korea

F. Nicoli, C. Squarcioni, L. Grimaud, M. Barberet, N. Girard: **Microbubble Administration During Prolonged 2 MHz TCD Improves Recanalization and Long-term Functional Outcome after IV Thrombolysis for MCA M1 Occlusion.**

**BACKGROUND:** In this sequential non-randomized analysis of a prospective database, acute MCA stroke patients, consecutively admitted in our department, undergoing IV Thrombolysis (IVT) and 2 MHz-TCD monitoring over 2 hours, with (N1=37) or without (N0=52) repeated bolus of Sonovue<sup>®</sup>, were compared.

**METHODS:** A brain MRI was performed within 4h30 from stroke onset (DWI, FLAIR, TOF MRA, T2\*, PWI) and data were analyzed using dedicated software (Perfscape<sup>®</sup>-Neuroscape<sup>®</sup>(OleaMedical<sup>™</sup>)). Manually guided TCD monitoring was performed during 2 hours. One day after IVT, CTA was systematically performed to assess the arterial recanalization.

**RESULTS:** In case of isolated MCA M1 occlusion, a NIHSS score less than 15 was an independent predictor of complete MCA recanalization at 24h and of a recovery of independence at 3 months after stroke onset (multiple logistic regression analysis; respectively: OR=9; p=0.003 and OR=5; p=0.02). After adjustment for stroke severity, patients with isolated MCA M1 occlusion (n=54) who received ECA had a complete recanalization (86% rate) significantly more than those who were only TCD monitored (50% rate) (OR=13; p=0.027), without an increased risk of symptomatic hemorrhagic transformation (NINDS definition) (5.7% N0 group vs 5.4% N1 group) and their probability of independence at 3 months was higher (OR=18; p=0.01).

**CONCLUSIONS:** This pilot study suggests that in IVT the use of ECA in addition to 2 MHz-TCD monitoring is significantly associated to a greater recanalization at day 1 and to a better functional prognosis at 3 months in isolated MCA M1 occlusion patients. These data must be confirmed in a randomized study.