

The findings emphasize the need for early aggressive treatment and control of seizures in infants and young children. (Berg AT, Zelko FA, Levy SR, Testa FM. Age at onset of epilepsy, pharmacoresistance, and cognitive outcomes. A prospective cohort study. **Neurology** 2012 Sep 25;79(13):1384-91).

COMMENT. This study corroborates the clinical and laboratory evidence pointing to an injurious effect of seizures and epileptic encephalopathy on cognition, especially in the young. In a previous analysis of very young patients in this cohort (seizure onset 0-3 years), Vineland Adaptive Behavior Scale (VABS) scores declined over the first 3 years in patients with pharmacoresistant seizures but stayed constant in those with well-controlled seizures (Berg AT et al. **Pediatrics** 2004 Sep;114(3):645-50). The effect of seizures on the developing brain appears to be potentially more injurious than that of sedative anticonvulsants.

VASCULAR DISORDERS

CYTOKINE MARKERS OF FOCAL CEREBRAL ARTERIOPATHY

Researchers at the University of Calgary, Canada report 2 adolescents with focal cerebral arteriopathy (FCA), a stenosis of the large or medium-sized blood vessels, with marked elevations in inflammatory biomarkers. These compared to a case of nonarteriopathic arterial ischemic stroke (AIS) and normal adult serum. Case 1. A 14-year-old girl presented with acute left hemiparesis secondary to right MCA AIS. Vascular imaging revealed arteriopathy with irregular stenosis and dilatation of internal carotid, M1, M2, and A1 arteries without dissection. She recovered following anticoagulates and treatment with steroids and cyclophosphamide. Case 2. A healthy 15-year-old boy presented with aphasia and hemiparesis secondary to large left MCA AIS. A malignant cerebral edema required decompressive hemicraniectomy. Following treatment with aspirin and steroids the arteriopathy partially improved over months. Case 3. A 16-year-old female smoker after starting on contraceptives presented with right hemiplegia and left M1 thrombus without arteriopathy. Echocardiogram revealed a patent foramen ovale, and an embolism was presumed. At 6 months she is normal and taking aspirin.

Cytokine assays were quantified for each subject. Elevations of inflammatory markers were seen in acute phase of FCA cases but not in the embolic case. These elevations normalized following treatment. Quantitative analysis of serum cytokine is a useful biomarker in FCA and childhood stroke. (Mineyko A, Narendran A, Fritzler ML, Wei X-C, Schmeling H, Kirton A. Inflammatory biomarkers of pediatric focal cerebral arteriopathy. **Neurology** 2012 Sep 25;79(13):1406-8). (Response: Dr Mineyko, E-mail: Aleksandra.mineyko@alberthealthservices.ca).

COMMENT. An editorial comment questions whether the improvement in treated patients could be part of the natural history. In a recent series of 79 children with stroke due to FCA, 23% normalized, 77% stabilized or improved, and only 6% showed progression (Braun KP et al. **Brain** 2009 Feb;132(2):544-57). Studies in large cohorts are required to clarify the utility of measuring inflammatory markers in children with stroke.