

## VASCULAR DISORDERS

### **ROLE OF TESTOSTERONE IN PEDIATRIC STROKE**

To elucidate the male preponderance in pediatric stroke, researchers at University of Munster, Germany, Hospital for Sick Children Toronto, Canada, and other centers measured total testosterone in 72 children with arterial ischemic stroke (AIS), 52 with cerebral sinovenous thrombosis (CSVT), and in 109 healthy controls. Testosterone levels above the 90<sup>th</sup> percentile for age and gender were detected in 10 (13.9%) children with AIS and 10 (19.2%) with CSVT, totaling 16.7% with stroke, as compared with 2 (1.8%) controls ( $p=0.002$ ). Adjusting for variables, elevated testosterone was independently associated with a 4-5-fold increased risk of stroke. The odds of cerebral thromboembolism in boys was increased 1.3-fold for each 1nm/L increase in testosterone. Testosterone levels were elevated less often in girls compared with boys (10.5% vs 20.9%) and not correlated with the risk of stroke. (Normann S, de Veber G, Fobker M, et al. Role of endogenous testosterone concentration in pediatric stroke. *Ann Neurol* Dec 2009;66:754-758). (Respond: Dr Nowak-Gottl. E-mail: [leagottl@uni-muenster.de](mailto:leagottl@uni-muenster.de)).

COMMENT. The male preponderance of pediatric stroke is associated with elevated endogenous testosterone levels. Studies in adults with increased risk of stroke related to anabolic/androgenic steroid abuse point to a testosterone-mediated hypercoagulability and platelet aggregation as a mechanism.

**Investigation of mortality from childhood stroke in UK, 1921-2000**, using the National Statistics database, found an initial decline followed by a steep rise in the 1940s. Subsequently, rates declined from the late 1960s onwards. Males had a higher mortality rate than females. Infants <1 year old had the highest rate that fell sharply in early childhood and rose again in late adolescence. Hemorrhagic stroke accounted for 71% stroke deaths. Mortality declined with each successive generation since the 1950s, suggesting the influence of prenatal or perinatal factors. (Mallick AA. *Arch Dis Child* Jan 2010;95:12-19).

## INTRACRANIAL SPACE-OCCUPYING LESIONS

### **ENDOSCOPIC TREATMENT OF MIDDLE FOSSA ARACHNOID CYSTS**

Clinical and radiological presentation, indications to treat, surgical complications, and follow-up were investigated in 40 children with middle fossa arachnoid cysts (MFAC) treated at two centers in Florence, Italy, and Liverpool, UK. Thirty were male and 10 female, mean age 7.8 years, mean follow-up 21 months. Cysts were unilateral, left sided in 28 and right in 12. All underwent endoscopic cystocisternal fenestration as first line surgical treatment. At presentation, intracranial hypertension occurred in 18 (45%), with headache in 15 (37.5%); functional symptoms occurred in 11 (27%) and included