

## ANTICONVULSANT DRUGS

### **THROMBOPHILIC RISK FACTORS WITH VALPROIC ACID**

Thrombophilic risk factors were investigated in 21 children (age range, 1-13 years) with epilepsy and recently treated with valproic acid monotherapy, in a study at Ankara University Medicine Faculty, Turkey. None had received any type of anticonvulsant previously. Thrombotic risk factors evaluated before and 9 to 12 months with treatment included homocysteine, lipoprotein(a), factor VIII, factor IX, protein C, protein S, antithrombin III, and activated protein C resistance levels. Thrombosis gene mutations (factor V Leiden and prothrombin) were also evaluated before treatment with valproic acid. Statistically significant elevation in lipoprotein(a) levels and reduction in fibrinogen levels were observed after therapy. Reduction in protein C and elevation in homocysteine levels were not significant. No thrombotic event occurred before or after treatment. Caution is advised in initiating valproic acid therapy in children with a history of stroke or thrombotic events. Routine investigation of thrombotic factors is not considered warranted. (Unal O, Deda G, Teber S, Ertem M, Akar N. Thrombophilic risk factors in epileptic children treated with valproic acid. *Pediatr Neurol* February 2009;40:102-106) (Respond: Dr Unal. E-mail: [unalozlem@gmail.com](mailto:unalozlem@gmail.com)).

COMMENT. Valproic acid therapy may increase lipoprotein(a) and decrease fibrinogen, leading to an increased risk of stroke or other thrombotic event. Before initiating valproic acid therapy for epilepsy, measurement of thrombophilic risk factors is warranted in patients with a history of stroke but not routinely,. Long-term treatment >12 months may warrant careful monitoring. The authors refer to a few reports of thrombophilia related to valproic acid, some precipitated by high altitude. In one report, protein C levels were reduced in 45% of 20 VPA-treated children and one suffered a stroke (Gruppo R et al. *J Pediatr* 2000;137:714-718).

## VASCULAR DISORDERS

### **RISK FACTORS FOR INTRACRANIAL HEMORRHAGE**

Risk factors for nontraumatic intracranial hemorrhage (ICH) in 85 children identified, 2000-2007, were studied retrospectively at Children's Hospital, Columbus, OH. Median age at presentation was 7 years (range, 7 days to 17 years), with 27 children 2 years or younger; 54 boys and 31 girls, sex ratio, 1.7:1. Location of hemorrhage was subarachnoid in 10, intraparenchymal in 61 (50 supratentorial, 11 infratentorial), and subdural in 14 children. Risk factors were intracranial vascular anomalies in 24 (AVM 11), congenital heart disease in 14, and brain tumor in 13. Infection was associated in 5 (6%) cases, and coagulation factor deficiencies in 4 (5%). Mortality was 34%. Of 48 survivors with follow-up information, 26 (54%) had no deficits; 22 had mild to severe deficits. (Wo WD, Lee J, Rusin J, Perkins E, Roach ES. Intracranial hemorrhage in children. *Arch Neurol* 2008;65:1629-1633).(Respond: WD Lo MD. E-mail:warren.lo@nationwidechildrens.org).