LONG-TERM CLINICAL, ENDOCRINE AND METABOLIC EFFECTS OF VALPROIC ACID VERSUS CARBAMAZEPINE MONOTHERAPY FOR BOYS AND MALE ADOLESCENTS WITH EPILEPSY: GENDER DIFFERENCES?

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Both epilepsy and antiepileptic drugs (AEDs), and in particular valproic acid, have been associated with numerous endocrine abnormalities. Previous studies have focused mainly on female patients. We prospectively studied 37 boys with epilepsy (22 with generalized, 14 with partial, and one with unclassified seizures). Twenty-four were treated with valproic acid monotherapy (13.9 mg/kg/day) for a mean duration of 7.1 years, and 13 with carbamezapine monotherapy (13.4 mg/kg/day) for a mean duration of 6.1 years. Upon diagnosis, 14 were prepubertal, 15 pubertal and 8 postpubertal. A control group included 48 age-matched boys with hypothyroidism adequately treated and euthyroid. We compared the data on metabolic, auxological and hormonal parameters before treatment initiation, 6 months later and at last follow-up visit. Weight-SDS was significantly greater during the first 6 months of treatment ($P<0.001$) with no correlation to the AED regime, but decreased between the first and last visit ($P=0.01$). These changes were not observed in the controls. Mean free-T4 serum levels significantly declined between the first and last visit in the carbamazepine-treated group ($P=0.006$), but remained within the normal range, with no change in mean TSH levels. No correlation was found between mean dose of treatment or duration and auxological characteristics and fasting metabolic profile. Long-term therapy with valproic acid or carbamazepine had no significant clinical or endocrinological effect on boys and adolescents with epilepsy, except for an increase in body weight during the first 6 months of treatment, with a decline thereafter. Further, larger prospective studies are required to corroborate our findings.