P-188 - NEUROCOGNITION AND EARLY OVERTREATMENT IN CONGENITAL HYPOTHYROIDISM DETECTED BY NEONATAL SCREENING

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INTRODUCTION: Early diagnosis and treatment of congenital hypothyroidism (CH) prevents mental retardation. Although initial treatment with high doses of levothyroxine (LT4) is recommended, moderate hypertiroxinemia with suppressed TSH during the first months of some patients is difficult to avoid. If this is innocuous or constitutes a risk factor for neurocognitive impairment is controversial. OBJECTIVE: To evaluate the cognitive outcome at age 9-10yrs of early detected and treated CH in whom suppressed TSH and moderate hyperthyroxinemia were present during the first six months of treatment.

PATIENTS AND METHODS: We retrospectively reviewed data on age, TSH and T4 levels at diagnosis, LT4 initial doses, etiology, symptoms of hyperthyroidism and T4 levels attained at 2 and 6 months of 35 CH patients early detected and regularly followed-up. Patients were considered overtreated (OT) if TSH was persistently <0.5 uUI/ml along the first 6 months, or not-overtreated (NOT) when TSH was 0.5-6.5 uUI/ml in the same period. No differences were found in (median): age (days) (OT=23, NOT=21), LT4 dose (ug/kg/day) (OT=12,9, NOT=12.1) initial severity of hypothyroidism reflected as TSH>40 uUI/ml (OT=89,5%, NOT=93,8%) and T4<2ug/dl (OT=42,1%, NOT=43,8%). Etiology was in OT: 12 ectopic, 4 eutopic and 3 athyreosis and in NOT: 5 ectopic, 5 eutopic, 5 athyreosis and 1 hypoplastic. Symptoms of hyperthyroidism were always absent. T4 levels attained were moderately high in both groups at 2 months and within normal references at 6 months. All children underwent evaluation with WISC-III (global, verbal and performance IQ, verbal comprehension, absence of distractibility, processing speed, perceptual organization, attentional amplitude, working memory), Faces Test (selective attention), CPT-II (omissions and commissions) and Trail Making Test (attention divided). School achievement was also registered. Student T-test with Bonferroni´s adjustment were used for analysis(p<0.05). RESULTS: Scholar level achieved was in all patients the expected for age. Developmental scores were always normal without differences between groups in the neurocognitive evaluation. CONCLUSIONS: Early overtreatment (low TSH with hyperthyroxinemia) without clinical expression didn’t impair neurocognitive outcome at age 9-10 in our patients. These results have to be taken into account while treating CH, knowing that lowering LT4 dose might lead to an increased risk of undertreatment.