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**Problem Behavior and Testosterone in Pre-pubertal Boys with Autism Spectrum Disorder**

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**Aim:** The aim of this study was to compare testosterone level with clinical features of problem behavior in children with ASD.

**Methods:** The study sample consisted of 35 pre-pubertal boys with clinical diagnosis of ASD. In all children (ages 3-10) diagnosed as ASD, parents completed Nisonger Child Behavior Rating Form (NCBRF) (version for intellectual disabilities)- parent version. Rating scale assessed child's behavior as observed in previous 1-2 months. Specific problem behavior was rated on subscales for conduct problems, anxiety, hyperactivity, self-injury/stereotypic behavior, self-isolated/ritualistic and overly sensitive. On this rating form parents also assessed social behavior: compliant behavior and adaptive social behavior. Total serum testosterone levels were determined after the parents completed rating forms, according to standardized procedure.

**Results:** It was found positive correlation between total serum testosterone levels and conduct problem subscale ( $p=0.007$ ,  $r=0.445$ ) and as well as total serum testosterone levels and overly sensitive subscale ( $p=0.03$ ,  $r=0.348$ ) of NCBRF. In other subscales of NCBRF (problem behavior or social behavior) were no significant correlations.

**Conclusions:** The results suggest that there might be some relationship between problem behavior (specifically conduct problems and overall sensitivity) and testosterone levels in boys with ASD. Testosterone levels had no significant correlation with other subscales of NCBRF. However further research is needed for investigation of complex androgen activity (free TST levels, SHBD levels) and potential roles of other hormones in complex etiology of conduct problems and overall sensitivity in children with ASD. This findings rise interest in further investigation of relationship between testosterone and conduct problems and overall sensitivity in children with ASD and indicate that therapeutic strategies targeting testosterone could be useful in the treatment of problem behaviors in children with ASD.

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