Relationship between Levels of Testosterone and Cortisol in Saliva and Aggressive Behaviors of Adolescents

YI-ZHEN YU*2 AND JUN-XIA SHI*

*Department of Child and Adolescent Health and Maternal Care, School of Public Health, Tongji Medical College, Huazhong University of Science and Technology, Wuhan 430030, Hubei, China; 2Department of Psychiatry, Burlington, VT.

Objective To explore the endocrinal factors which influence the aggressive behavior of adolescents. Methods The levels of cortisol (CORT), testosterone (T), prolactin (PRL), and growth hormone (GH) in saliva from 20 aggressive students and 20 non-aggressive control students were measured by radioimmunoassay (RIA). The students were matched for their gender, age, grade, stage of pubertal development, and economic status of their families. Results The salivary T levels were 22.20±14.50 pg/ml and 19.54±12.52 pg/ml in aggressive male and female students, 13.20±6.85 pg/ml and 5.24±3.03 pg/ml in non-aggressive male and female students (P<0.05). The male aggressive students had a lower level of CORT in saliva than non-aggressive male students (P<0.05). There were no significant differences in the salivary levels of PRL or GH between the aggressive and non-aggressive groups. Correlation analysis revealed a negative relationship in male students between the salivary CORT levels and the aggression factor scores of the child behavior checklist (CBCL). In addition, the data also showed a positive relationship between the salivary T levels and the aggression factor scores of CBCL in female students. Multiple linear regression analysis showed that the salivary CORT level was an independent predictive factor for aggressive behaviors in adolescent boys. The higher the CORT level, the less aggressive the boys were. Conclusion CORT and T levels may play a certain role in adolescent aggressive behaviors.

Key words: Adolescents; Aggressive behavior; Testosterone (T); Cortisol (CORT)

REFERENCES


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