
Symposium TA-2
Thursday, July 27, 2006

Cortisol levels and reconciliation after aggression in male adolescents

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The goal of this study was to test a relevance of the stress –reduction hypothesis for explanation of mechanisms of const-conflict reunion in humans. We addressed a relations between behaviour followed aggressive interactions and cortisol levels in boys. 58 boys between 8 and 15 years of age organized in three groups were observed during a free play sessions during their stay in summer camp. Observations were conducted in August 2003 and 2004. Post-conflict – matched control method was used for observations (de Waal, Yoshihara, 1983; Butovskaya et al., 2000). We conducted focal observations after victims, or aggressors for a period of 10 minutes after last agonistic interaction between former opponents. Saliva samples were collected at an end of each post-conflict observational session and next day at a same time. We differentiated two types of post-conflict interaction: those with and without reunion. Cortisol levels were measured by immune-fermentative method using the standard cortisol saliva Elisa diagnostic kits. The mean cortisol level in post-conflict with reunion did not differ from match control in victims (PC: $2,63 \pm 0,60$ and MC: $2,43 \pm 0,45$, $t=0,594$, $df=35$, NS), while the mean cortisol level in post-conflict without reunion was significantly higher compared to match control in victims (PC: $4,91 \pm 0,90$ and $2,16 \pm 0,48$, $t=4,226$, $df=30$, $p<0,000$). Similar trends were registered for aggressors. No significant differences between PC with reunion and MC cortisol levels were found (PC: $4,11 \pm 0,38$ and MC: $3,77 \pm 0,41$, $t=1,847$, $df=14$, NS), meantime differences in cortisol levels for PC without reunion and MC were significant (PC: $11,98 \pm 1,61$ and $3,97 \pm 0,61$, $t=5,077$, $df=10$, $p<0,000$). The stress-reduction efficiency of post-conflict reunion in adolescents was demonstrated. Supported by RFBF, grant N.04-06-80166a.

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