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### CONFERENCE ABSTRACTS

#### 6. GENERAL QUESTIONS: PSYCHIATRY OF STRESS

##### PECULIARITIES OF INDIVIDUAL FUNCTIONAL BRAIN ASYMMETRY PROFILES IN SUICIDAL SUBJECTS

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In the last years, numerous studies show cerebral asymmetry in various forms of deviant behavior, including addictive (Egorov, Tihomirova, 2004; London et al., 1990; Sperling et al., 2000), aggressive (Golden et al., 1996; Mayer, Kosson, 2000), suicidal (Weinberg, 2000), and deviant sexual behavior (Bogaert, 2001; Springer, Deutsch, 1998). Despite certain discrepancy in these data, most findings show impaired lateralization impairment in such cases. Profiles of motor, sensory and cognitive asymmetry in 60 suicidal subjects (25 non psychotic and 35 psychotic patients) were compared to normal controls ( $n = 25$ ), using modified Annett questionnaire. To elucidate cognitive asymmetry (i.e. strategy of the left and right hemispheres in visual and verbal tasks), the battery of verified original tests was used. Our results reveal marked changes in functional brain asymmetry in persons with attempted suicide. In both investigated subgroups, a substantial increase of the left-side motor and sensory asymmetry was observed. The analysis of motor asymmetry profiles showed a significant prevalence of left-side profiles in suicidal subjects, vs. the control group ( $13.3 \pm 3.2$  vs  $3.8 \pm 2.7\%$ ,  $p < 0.01$ ). Ambidexterity was also seen more often in suicidants vs. controls ( $8.4 \pm 2.5$  vs  $1.9 \pm 2.0\%$ ,  $p < 0.05$ ). In sensory asymmetry (left/right ear and eye dominance) a significant left-side prevalence in suicidal subjects was revealed:  $32.5 \pm 4.3$  vs.  $13.5 \pm 4.8\%$  in controls ( $p < 0.05$ ). Moreover, a greater variety of motor and sensory asymmetry profiles was seen, including combination right hand + left leg, right eye + left ear; right hand + left leg, etc. The suicidants significantly more often than the controls used right-hemispheric strategy in decision making in visuo-spatial and verbal tasks ( $66.7 \pm 8.3$  vs  $23.8 \pm 9.2$ ,  $P < 0.01$ ). No significant differences between psychotic and non-psychotic subgroups were obtained. Overall, our data clearly show functional brain asymmetry impairment in both psychotic and non-psychotic suicidal subjects. Moreover, lateralization dysfunction affected all types of asymmetry — motor, sensory, and cognitive. Similar findings in both subgroups indicate that the right-hemispheric dysfunction (activation) is a general neuropsychological pattern in various groups of suicidal subjects. The left-side profile increase in motor and sensory spheres speaks for itself, since these changes are stable enough compared to cognitive asymmetry profiles, which are affected by external influences (Egorov, Balashova, 2004). In conclusion, since increase of left-lateral profiles of motor and sensory asymmetry was earlier revealed in addicts, aggressors and sexual deviants, it is possible to assume uniform neuropsychological patterns in various forms of deviant behavior.