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Empathy and Social Cognition in a Population of Schizophrenic Patients. a Study of Magnetic Resonance Dti (diffusion Tensor Imaging).

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Introduction: Data show impairment in Social Cognition (SC) in schizophrenia underlining also the diagnostic importance of neuroimaging in this area. So, it seems important to identify possible correlations between SC and structural brain abnormalities.

Objectives: 1) Evaluate differences in emotional recognition between schizophrenics and healthy controls and the structural characteristics of the anterior left and right thalamic radiation (TR) of both groups. 2) Identify possible association between sociocognitive abilities and structural characteristics of the thalamic radiation.

Aims: Investigate the relationship between anomalies in integrity and fiber orientation of anterior TR and sociocognitive performance in schizophrenia.

Methods: 27 Schizophrenics (SCID-I), age-matched with 11 healthy controls, were evaluated with The awareness of Social Inference Test (TASIT) to assess emotion and conversation literally and non-literally remarks recognition. DTI images –with measure of fractional anisotropy (FA) of TR– were collected using 3T-MRI scanner. Mixed-design ANOVA was performed on right and left FA. MANOVA was performed on TASIT.

Results: Deficits in recognition of positive and negative emotions, perceive sarcasm, distinguish between truth and lies were observed. Moreover, significant negative correlations between FA of left TR and scores in "Positive Emotions" ($r=-.466, p=.019$), "Total Emotions" ($r=-.411, p=.041$), "Lie" ($r=-.451, p=.024$) and a negative significant correlation between FA right TR and scores "sincerity" ($r=-.522, p=.009$), were observed.

Conclusions: These preliminary results confirm that SC is impaired in schizophrenia and show that increased FA of left and right TR correlates with lower TASIT scores. These results highlight the role of TR in emotion regulation suggesting that structural anomalies could result in worse sociocognitive performance.