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THE NEURONAL CORRELATES OF EMPATHY IN AUTISM SPECTRUM DISORDERS

T.M. Michel¹, S. Herholz², A. Finkelmeier¹, F. Schneider¹, E. Brüggemann¹, M. Haeck¹, K. Schneider¹, A. Vloet¹, U. Habel¹

¹Psychiatry and Psychotherapy, ²RWTH Aachen University, Aachen, Germany

Introduction: Autism spectrum disorders (ASD) are characterised by repetitive behaviour/interests, an impairment in reciprocal social interaction and communication. This implies the inadequate appreciation of socio-emotional cues and leads to a default in the responses to other people's emotions.

Objectives: Deficits in empathy have been described for individuals with autism spectrum disorders (ASD).

Aims: We aim to investigate the described deficits in empathy in a group of people with ASD on a behavioural and a neuronal level.

Methods: We assessed neuronal activity using functional magnetic resonance imaging (fMRI) during three different empathy tasks ("emotion-recognition", "perspective-taking" and "affective-responsiveness") of 12 adults with ASD and a matched group of healthy controls.

Results: Subjects with ASD did not have differences in affective responsiveness compared to healthy controls, but in emotion recognition and perspective taking. The reaction time was significantly longer in patients with ASD in all tasks. People with ASD showed a different pattern of brain activation in cortico-limbic areas during the empathy tasks compared to controls

Conclusion: Our findings of individuals with ASD having problems in emotions-recognition and in perspective taking are supported by previous results. These impairments are reflected by a different pattern of neuronal activation in several brain areas of individuals with ASD compared to controls. Although there are no differences in affective responsiveness in the ASD group a marked difference can be seen in the brain activation during this task. These findings might open up new avenues of intervention for individuals with ASD and their often described problems with empathy.