O-37 - DISRUPTED REGULATION OF SOCIAL EXCLUSION IN ALCOHOL DEPENDENCE: AN FMRI STUDY

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Introduction: Alcoholism leads to a wide range of impairments, among which affective and social interaction alterations seem crucial at a clinical level. Brain alterations linked to the emotional deficits have been recently explored, but the cerebral correlates of social interaction disturbances are still unknown.
Objectives and aims: Here we used a validated paradigm inducing social rejection feelings to investigate the cerebral activations associated with disturbed social interactions in alcoholism.
Methods: Twenty alcoholics and 20 matched controls were scanned using fMRI while playing a virtual ball-tossing game (i.e. “cyberball paradigm”). Participants were first included in the game by the two other players, then excluded and finally re-included.
Results: Controls presented increased activations in the anterior cingulate and ventral prefrontal cortices during social exclusion as compared to inclusion, while alcoholics only presented increased anterior cingulate activation, but no ventral prefrontal activation changes. Moreover, alcoholics had a persistence of the anterior cingulate activation during re-inclusion.
Conclusions: In the control group, social exclusion led to increased anterior cingulate cortex activation (associated with the distress due to social rejection feelings) and ventral prefrontal cortex activation (reflecting the inhibition of this feeling). More critically, our results show that alcoholics present: (1) impaired regulation of the social rejection feelings (absence of increased ventral prefrontal cortex activation during exclusion); (2) persistent rejection state (increased anterior cingulate activation), even when the actual rejection is terminated. We report the first evidence that reduced ventral prefrontal activation in alcoholism is linked to reduced ability to regulate emotional reaction during social exclusion.

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