A neuropsychological examination of orbitofrontal cortex function in eating disorders

Results:

Objectives: Previous neuroimaging findings implicate an orbitofrontal cortical dysfunction in the pathogenesis of anorexia nervosa (Uher 2003). The orbitofrontal cortex is necessary for practical decision making in humans and the Iowa Gambling task (IGT) became established as an instrument for investigation of decision making and orbitofrontal function (Bechara 2002).
Methods: Using the computerised IGT, we investigated the profile of decision making performance in anorexia nervosa female patients (n=29), male patients with anorexia (n=5) long term recovered participants (n=11), healthy control females (29), healthy males (N=25) . Skin conductance response during the task was measured using the PSYLAB equipment.
Results: As expected, the healthy control women made progressively more advantageous choices during the task. Patients with AN failed to show this learning effect and continued making disadvantageous choices throughout the task. Those recovered form AN, showed a normal learning curve and their performance was no worse than that of healthy controls in the IGT. The skin conductance responses have not been fully analysed at the time of writing this report.
Conclusions: The impairment of decision making in AN is replication of previous findings (Cavedini 2004). However, decision making in women recovered form AN was not previously reported and may elucidate the role of this cognitive function in the pathogenesis and course of the illness. This pattern of results may suggest that impaired decision making is either a state marker of AN and improvement in decision making is part of the process of recovery or it may be that decision making capacity is a positive prognostic factor which makes it possible to attain full recovery. To distinguish between these two distinct possibilities, longitudinal investigation is warranted. Obtained data allows to produce some publications, analysis of data is in progress

Published work:

Tchanturia K. (in press) *"Eating Disorders Historical Perspective, Journal for General Practitioners",* Tbilisi.

Tchanturia K, Uher R, Campbell I, Treasure, J (submitted) *"Decision-making task is it state or trait related? Cross sectional study on acutely ill, recovered from anorexia nervosa (AN)and non eating disorder female groups*". 8-th World Congress of Biological Psychiatry, 2005, Vienna.

Roberts M, Dermetriou L, Tchanturia K, Neuropsychological profile in the overweight population: An exploratory study of set-shifting and detail focused processing styles. Therapy 4(6) 1-4

Whitney J. Easter, A. Tchanturia K (2008) The patients experiences in cognitive exercise intervention for anorexia nervosa: Qualitative findings. International Journal of Eating Disorders 41(6):542-50.

Kate Tchanturia, Pei-Chi Liao, Rudolf Uher, Natalia Lawrence, Janet Treasure, Ian C. Campbell.(2007) *"An investigation of decision making in anorexia nervosa using the Iowa Gambling Task and skin conductance measurements"*. Journal of the International Neuropsychological Society (2007) 13. 635-641.

Tchanturia K, Campbell I, Morris R, Treasure J. (2005) Neuropsychological Studies in AN. International Journal of Eating Disorders, Special Issue Anorexia Nervosa. 37:572-576

Campbell I, Tchanturia K, Connan F, Uher R. (2004) *"Issues in Eating Dissorders"*. Journal of Georgian Psychiatry.

Southgate, L Tchanturia K, Treasure J, (2004) *"Neuropsychological studies in Eating Disorders: A review Book Chapter in Progress in Eating Disorders." Nova* Science Publishers.

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