P-1128 - ACUTE EFFECTS OF DIFFERENT STIMULATION SETTINGS VIA IMPLANTED ELECTRODES IN THE BED NUCLEUS OF THE STRIA TERMINALIS/ VENTRAL STRIATUM-INTERNAL CAPSULE IN TREATMENT-RESISTANT OBSESSIVE COMPULSIVE DISORDER

L.Winter, G.Lütjens, K.Schwabe, A.Saryyeva, H.E.Heissler, M.Alam, Y.Zhang, K.G.Kahl, J.K.Krauss
[1]Department of Psychiatry, Social Psychiatry and Psychotherapy, [2]Department of Neurosurgery, Hannover Medical School, Hannover, Germany

Introduction: Deep brain stimulation (DBS) in different targets emerges as a promising therapeutic option for patients with treatment-resistant obsessive compulsive disorder (trOCD). We here describe the acute effects of different stimulation settings on OCD symptoms and mood states in a patient with trOCD after implantation of DBS electrodes in the bed nucleus of the stria terminalis/ ventral striatum-internal capsule (BNST/VS-IC).
Method: Quadripolar DBS electrodes (Medtronic 3387) were implanted bilaterally with stereotactic guidance and microelectrode recordings in the BNST/VS-IC. Electrode location was confirmed via postoperative stereotactic CT. On the following day, the target was stimulated using different amplitudes (1V, 2V, 3.5V) and different contacts (0-/1+, 0-/3+, 2-/3+) with a constant pulse width of 210 µsec and a frequency of 130 Hz for 5 minutes, respectively. OCD symptoms and mood states were assessed by an independent rater using visual analogue scales.
Results: Subjective intensity of obsessive-compulsive thoughts was reduced most by acute stimulation with 2V but, however, deteriorated with higher amplitudes. Subjective feelings of pleasure and spontaneous smiling were induced also at low voltage. Stimulation of different contact pairs located either in the BNST (0-/1+) or in the IC (2-/3+), and combined stimulation (0-/3+) produced differential and particularly specific effects.
Discussion: We show acute effects on core symptoms of OCD after stimulation in the BNST/VS-IC. The induction of positive feelings accompanied symptom reduction. One hypothesis to explain our finding is that the induction of pleasure and smiling may be an epiphenomenon of stimulation of a ´sweet-spot´ that ameliorates OCD symptoms after stimulation.

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