

TREATING PSYCHIATRIC DISORDERS THROUGH DEEP BRAIN STIMULATION (DBS)

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Aim

DBS is currently being investigated for highly-resistant psycho-affective disorders. It has inherent advantages over previous psychiatric lesioning procedures for its reversibility and adaptability to patient's changing symptoms and disease progression. In psychiatric illness there is not single pathological structure involved, several brain structures presumably play different roles in development and maintenance of symptoms, some targets are in close anatomical or functional relationship and overlap of effects is plausible. That is why different targets might manipulate pathological network at different nodes. We report our experience with DBS in the treatment of some refractory behaviour disorders.

Methods

Treated patients at Neurosurgical Department - University "Magna Graecia" of Catanzaro and at 3th Neurosurgical Department – Neurological Institute "Carlo Besta" of Milan were affected from Major Depression, Obsessive Compulsive Disorders, Aggressive Behaviour with Subaverage IQ and Somatophorm Disease for a total of 18 patients. Most of patients underwent DBS as "compassionate treatment" lacking a national protocol on this topic.

Targeted anatomic structures were Subcallosal Cingulate Cortex-area Cg 25 for Major Depression (2 cases), Accumbens Nucleus (4 cases) and Bed Nucleus of Stria Terminalis (4 cases) for Obsessive Compulsive Disorder, Posterior Hypothalamus for refractory Aggressive Behaviour (7 cases) and Cingulate Cortex-area Cg 24 for Somatophorm Disease (1 case).

All patients were selected for surgery by two independent psychiatrists and all procedures underwent approval from ethical committee.

Results

We obtained good results in all disorders treated with percentage of responders at long term follow-up (2-6 years) more than 70%. Results are detailed and discussed in view of recent advances in neuroimaging and of need to suggest European programs and guidelines to develop this topic for the future. There were no complications and few transient adverse effects especially for Posterior Hypothalamus DBS.

Conclusions

DBS is "ultima ratio" and supposedly effective therapy of disabling behaviour disorders refractory to pharmacological, psychological, psychotherapeutics and rehabilitative procedures. The promise is immense, but considering psychosurgery's dubious past, today's neurosurgeons must proceed with caution. Much efforts are needed to develop select criteria for determining which patients would more benefit, taking into account the justified political and psychiatry-critical dimensions of psycho-neurosurgical operations.