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Neurosurgery and refractory obsessive-compulsive disease: a case report

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Neurosurgical treatment in psychiatry is an uncommon technique that is only used in some serious mental diseases which are very refractory to conventional treatment. There is no doubt that the documented cases have efficiently contributed to those cases where combined treatment (drug-psychotherapy) does not lead to clear improvement and where the course leads to serious psychosocial deterioration.

We present a clinical case of neurosurgery in obsessive compulsive disease with good results. This seems to be a good strategy to make the results of these techniques known because of the shortage of controlled studies published.

Key words:
Neurosurgery. Obsessive-compulsive disorder.

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Neurocirugía y TOC resistente: a propósito de un caso

El tratamiento neuroquirúrgico en psiquiatría es una técnica excepcional que sólo se aplica en algunos trastornos especialmente graves y resistentes al tratamiento convencional. Pero, sin duda, los datos que se van documentando aportan eficacia en aquellos casos en que los tratamientos combinados (fármacos-psicoterapia) no producen mejora y la evolución se dirige hacia el deterioro psicosocial grave.

Presentamos un caso clínico, neurocirugía en un TOC, con buenos resultados, lo que parece una buena estrategia para ir difundiendo los resultados de estas técnicas dada la escasez de estudios controlados publicados.

Palabras clave:
Neurocirugía. Trastorno obsesivo-compulsivo.

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INTRODUCTION

For many years, neurosurgical treatment has been suggested for some mental diseases, especially when they are serious and invalidating diseases that are refractory to conventional, psychopharmacological or psychotherapy treatment, basically refactory obsessive-compulsive disorder (OCD), refractory affective disorders and chronic states of anxiety[1]. Response to combined treatments (drugs-psychotherapy) occurs in approximately 60%-80% of the cases. Many patients who, after adequate strategy, with adequate products, necessary doses and appropriate times, not only do not improve but evolve to severe psychosocial deterioration. Neurosurgery could be indicated in this case[2].

We believe that presenting clinical cases is a good strategy to make the results of these techniques known because of the shortage of controlled studies published[3].

CLINICAL CASE

The case of a 21 year-male patient with no family psychopathological background of interest is presented. He was born in the 8th month of pregnancy, weighed 3 kg and suffered an infection having non-specified etiology at a few days of birth that required 10 days of hospitalization (the family remembers a condition of flaccidity and hyporeactivity). During his childhood, he suffered different psychopathologies, within the sphere of anxiety: separation anxiety, phobia of the swimming pool and dogs, panic attack during a flight. Schooling and academic performance were normal, and he stood out in sports.

At 17, he began with severer psychopathological disorders: intense fear of catching AIDS and being the object of mockery by his peers and he began to develop checking rituals (such as looking under his seat to see if they were syringes) and avoidance rituals (not looking behind him so that his peers would not perceive his doubts). He developed intense fear of dirt and also washing rituals (that caused contact eczema). He failed at school and stopped practicing sports. He began with psychiatric care and was diagnosed of

obsessive-compulsive disorder. He went to several specialists during a period of 4 years and was treated with many different psychodrugs. He also had psychoanalytic and cognitive-behavior psychotherapy. At one time, he had to be admitted to a psychiatric unit due to serious behavioral disorders with predominance of heteroaggressiveness (intense anguish that lead him to break the furniture in his house).

When he was examined, the following stood out: noise intolerance (conversations, television, computer keyboard), that continued to provoke violent behaviors although it never provoked him to harm persons, almost complete social avoidance, he spent most of his time in bed, trying to rest up from the situation of permanent «activation» because of the risk that unexpected noises could occur. His family feels enslaved by his demands for silence and episodes of violence.

Under these conditions of chronic course, clinical seriousness and resistance to treatments established, stereotactic surgery was decided. His cognitive functions were evaluated beforehand: IQ: 106, verbal and visual memory alteration, executive function altered by rigid cognitive processes and praxic functions, visual gnosia and abstract thinking without alterations. A brain magnetic resonance imaging (MRI) was done. It showed mild asymmetry in the striatopallidal complex morphology and dilation of the rostral part of the temporal horn of the right lateral ventricle. Furthermore, the Positron Emission Tomography (PET) detected global cerebral hypometabolism (that was considered to be related with a medication or possible endogenous depressive component).

It was concluded that there was organic dysfunction of the limbic structures that was supported by the tests conducted and that would explain the psychopathological alterations (psychotic traits together with OCD type anxiety disorder symptoms).

He was operated on using the stereotactic technique and Leksell radiofrequency generator, performing three thermocoagulations in the left fundus stria terminalis (6 × 4 mm) and bilateral anterior capsule (15 × 4 mm). He was discharged at 72 h with no complications.

He has been monitored and followed-up periodically in our mental health care unit up to the present. His behavior has significantly improved, his symptoms lessened and the intense anxiety that led to fits of violence has disappeared.

DISCUSSION

Since Moniz, in 1936[4], there have been many authors who have proposed brain surgery in serious psychiatric disorders. In 1947, the first stereotactic surgery was developed and improved by many sites. This technique avoids adverse events and complications[5]. Five neurosurgical variants are recommended at present: anterior cingulotomy, anterior capsulotomy, subcaudate tractotomy, limbic leucotomy, and central lateral thalamotomy/anterior medial pallidotomy[2]. Bilateral anterior capsulotomy has been suggested, especially for refractory obsessive-compulsive disorders[6]. Specifically, this is the method that we have used in our patient with some very favorable results almost two years after the intervention: significant decrease in obsessive ideation, normalization of his behavior. He has returned to his studies and sports activities and improved social contact (during this entire time, he has continued treatment with fluxetine).

More recently, research has pointed to the use of transcranial magnetic stimulation, vagus nerve stimulation and other neurosurgical techniques such as capsulotomy with gamma knife and deep brain stimulation (DBS)[7].

In one way or another, the literature states that neurosurgery improves the refractory OCD up to 70%[8] and its effects are maintained in the middle-long term[9] so that it is a therapeutic choice that should be evaluated, especially if we consider the intense suffering that this disease causes in the patient and family members.

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