

# Guidelines for neurosurgery of severe psychiatric disorders in Brazil: a preliminary proposal

*'To be afraid of our technology is to be afraid of ourselves. It is only essential that we protect ourselves here, as everywhere, from arrogance and insensitivity. The answer is not to prohibit technology but to insist that it always be subservient to the transcending values of human worth and human dignity'*<sup>1</sup>

In the last years we verified a great progress in the neurosciences added to the discovery of new investigation methods, allowing a greater knowledge on the neurobiological foundations of several mental disorders. Simultaneously, there have arisen new and more efficient neurosurgical techniques, less intrusive and, consequently, associated with a lower profile of side-effects. The integration of these effects enables, nowadays, to perform neuroanatomically oriented neurosurgical interventions or to influence in specific neuronal circuits whose activity seems abnormal in certain psychiatric disorders. With the advance of research in this area and the better knowledge on the neurobiological substrates involved in the etiopathogenesis of mental disorders, we may expect the discovery of more and more precise targets for neurosurgical procedures. Reciprocally, the results in the treatment using these techniques may confirm or generate new information for the existent models about the pathogenesis of these disorders.

Obsessive-compulsive disorder and major depression refractory to conventional treatments are, among others, the psychopathological conditions about which there are more studies regarding the use of functional neurosurgeries. These disorders cause incommensurable pain, deep incapacitation and negative effects to their bearers, with great impact in their conjugal, family, professional and social lives.

For the functional neurosurgical treatment of these disorders, which are severe and non-responsive to conventional treatments disorders, there are several stereotactic techniques, which have evolved since the first 'in-the-open' interventions up to precise lesions induced at specific regions of the brain, resulting in a considerable degree of efficacy: capsulotomy, cingulotomy, subcaudate tractotomy and limbic leucotomy. These techniques consist in the interruption of neural circuits

with radiofrequency via skull trepanation or with radiosurgery, when the actinic lesion is induced without the need to open the skull. Reversible neurosurgical techniques, such as deep brain stimulation, consisting in the implantation of electrodes activated by stimulators, which can be implanted in the anterior internal capsule, have arisen more recently and are being already used.<sup>3</sup>

Due to the appearance of these new neurosurgical techniques and also of the negative reactions, which determined the proposal of laws forbidding this type of procedure, several working groups have been organized in order to define clear guidelines for their utilization.

Recently, the Brazilian Psychiatric Association has organized a working group in order to define nation-wide rules for the neurosurgeries of severe psychiatric disorders (also called psychosurgeries). Parallely, at the Clinical Hospital of the Medical School of the University of São Paulo, one commission tried to elaborate rules for that institution. This is an important discussion, as there are no current specific Resolutions of the Regional Council of Medicine on this issue. The preliminary guidelines presented bellow assemble crucial points, which are common to the proposal of these both groups.

Neurosurgical treatments for severe psychiatric disorders should be performed according to the following procedure:

1. Patients should be included in research projects, i.e., these researches should be approved by ethical and research commissions.
2. Operational criteria regarding the refractoriness to conventional treatments and the indication for neurosurgery, clearly defined and grounded according to the current international guidelines;
3. Assessment of refractoriness and indication of each potential case by an independent committee of professionals, indicated by the Regional Council of Medicine.
4. Necessary information, adequate, total and intelligible, transmitted to the patient and, when needed, to the person in charge, in an understandable form and language, encompassing all aspects described in international guidelines;

5. Informed consent for the treatment signed by the patient and, when needed, by the person in charge, in the presence of a person, not part in the project, able to assess if it was adequately performed;
6. Long-term follow-up of operated patients, as well as systematic assessment of their adverse effects and complications;
7. Performing of neurosurgical procedures in authorized centers, linked or affiliated to Universities, which must have ethical committees. Involved psychiatrists, who will have a leading role in the project, should have recognized experience in the treatment of the disorders to which the functional neurosurgery was indicated. The follow-up of those patients should be multidisciplinary performed, involving neurologists, neuropsychologists and neurotherapists, besides psychiatrists and neurosurgeons.

The guidelines suggested above are very similar to other international proposals, such as those recently elaborated for the use of deep encephalic stimulation in psychiatric disorders.

The definition of these rules aims to protect the patients to be submitted to a procedure, involving potentially relevant risks and side-effects without the adequate indication or subsequent medical follow-up. At the same time, clear and cau-

tious criteria are important to assure that the neurosurgeries for psychiatric disorders continue to be available for adequately selected patients.

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