Functional Neurosurgery

Functional neurosurgery (FN) involves the use of electrostimulation, ablative therapy, or therapeutic infusions to mask or relieve symptoms of aberrant neurophysiology. Functional procedures may be performed in the brain, spinal cord, or on cranial or peripheral nerves and may be used in the treatment of:

1. movement disorders

2. neurovascular compression syndromes

3. autonomic dysfunction

4. psychiatric disease

5. pain

6. epilepsy

Deep brain techniques (lesioning or stimulation) rely on stereotactic methods.

The surgical destruction or chronic excitation of a part of the brain as treatment of a physiological or psychological disorder.

Functional neurosurgery has undergone rapid growth over the last few years fueled by advances in imaging technology and novel treatment modalities. These advances have led to new surgical treatments using minimally invasive and precise techniques for conditions such as Parkinson's disease, essential tremor, epilepsy, and psychiatric disorders. Understanding the goals and technological issues of these procedures is imperative for the anesthesiologist to ensure the safe management of patients presenting for functional neurosurgical procedures. In a review, Dunn et al., discuss the advances in neurosurgical techniques for deep brain stimulation, focused ultrasound and minimally invasive laser-based treatment of refractory epilepsy and provide a guideline for neuroanesthesiologists caring for patients undergoing these procedures [1].

Functional Neurosurgery in Spain

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[1]
Dunn LK, Durieux ME, Elias WJ, Nemergut EC, Naik BI. Innovations in Functional Neurosurgery and Anesthetic Implications. J Neurosurg Anesthesiol. 2016 Dec 23. doi: 10.1097/ANA.0000000000000398. [Epub ahead of print] PubMed PMID: 28027070.

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