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DEEP BRAIN STIMULATION FOR PSYCHIATRIC DISORDERS

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SUMMARY

Research on DBS for psychiatric disorders is being carried out in several areas, including obsessive- compulsive disorder, major depression, addictions, Tourette's syndrome and eating disorders. The results in the literature are described. The need for rigorous screening by interdisciplinary and ethical teams is explained. The need for pooling patients across different centres, with common treatment protocols, in order to achieve necessary large-scale studies in psychiatric DBS with long-term follow-up is pointed out.

Key words: *deep brain stimulation - psychiatric disorders*

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Introduction & method

Deep brain stimulation (DBS) has proven a powerful treatment for medication refractory movement disorders. Research on DBS for psychiatric disorders that meet well defined criteria for chronicity, severity and treatment refractoriness is currently evolving and current research protocols are ongoing for obsessive-compulsive disorder, major depression, addictions, Tourette's syndrome and eating disorders. Multidisciplinary assessment and independent review of diagnosis, adequacy and failure documentation of prior treatments, and consent capacity are mandatory. Targeting of the leads depends on former experience with lesioning techniques, combined with current evolving understandings of the neurocircuitry underlying psychopathology of the psychiatric disorder.

Results

Successful DBS treatment of many case reports or small samples suffering from otherwise treatment-refractory psychiatric disorders are reported in literature, with follow-up durations up to 5 years. Clinical benefit can be obtained for the same indication with DBS targeting different brain structures. This is in accordance with anatomical neurocircuitry models of the disorder under investigation. Detailed pre- and postoperative assessments, including advanced neuropsychology and neuroimaging, and Careful continuous inventory of complications and side effects are performed to evaluate DBS and their outcomes. In view of the considerable commitment of multidisciplinary teams embarking in this field of research, pooling of patients across different centers, and cooperation between such centers, may help to collect data from necessary large-scale studies in psychiatric DBS with long-term follow-up.

Conclusion

DBS in severe and incapacitating psychiatric disorders has offered hope, but rigorous screening by interdisciplinary and ethical teams should be employed when establishing treatment candidacy. Case reports or small sample studies make this research field vulnerable to publishing bias. Caution is imperative and key issues in long-term management of psychiatric neurosurgery patients deserve focused attention.

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