

DBS in dystonia, three interesting clinical cases.

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Objective: Dystonia is a neurological disorder characterized by sustained muscle contraction with forced muscle movements and distorted posturing. In rare cases the leading symptom is dystonic tremor.

Subjects: There are 3 retrospective descriptive clinical cases of patients with dystonia. Two of them with generalized dystonia, and one of them with dystonic tremor in upper limb.

Results: Patient K., male, 44 y.o., dentist, has segmental dystonia and dystonic tremor of the right hand and the head. We implanted DBS electrodes in 2 targets at once: GPi and VIM on the left side. Electrode implantation was performed under local anesthesia with an immediate assessment of clinical and side effects. After surgery the best clinical effect was achieved with the simultaneous stimulation of both targets - almost complete regression of tremor with precise hand movements, ability to write and perform his professional actions with the right hand.

Patient V., female, 21 y.o., has severe generalized fixed dystonia with inability to walk and self-service. The leading symptom was strong spasticity in her trunk and limbs. We implanted baclofen pump with very good clinical effect, but after 4 years of intrathecal baclofen therapy the effect became poor with very high dosages and side effects. Patient became bedridden again. In February 2020 we implanted DBS GPi bilaterally additionally to working pump. And on the 5th day of stimulation patient could walk already and live normal life. Now both DBS and pump are working but we could significantly decrease the dosage of baclofen.

Patient V., male, 31 y.o., has severe torsion dystonia with early symptoms started from 2005. Two years before surgery he has been already disabled and wheelchair bounded. We implanted GPi DBS and after several months of stimulation the patient demonstrated quite good clinical effect with ability to walk and even work.

Conclusion: Patients with medically refractory forms of dystonia should be referred for consideration of DBS, especially patients with generalized and fixed dystonia. Early surgery can help to avoid joint and vertebral deformities. Combination of targets or modalities (DBS and iTB) can improve clinical effect.