COMPLEX APPROACH TO TREATMENT OF TARDIVE DYSKINESIA: MEDICAL AND SURGICAL TREATMENT

Alexey Tomskii, Oleg Zaitsev, Anna Poddubskaia & Anna Gamaleya

N.N. Burdenko National Medical Research Center of Neurosurgery», Moscow, Russia

Introduction: Tardive dyskinesias are a heterogeneous group of pathologies that manifest with various types of movement disorders (dystonia, parkinsonism, chorea, tics, myoclonus, tremor, akathisia, etc.). These symptoms occur as a result of taking D2 receptor blockers (typical neuroleptics, metoclopramide. The pathological manifestations could appear after taking and even canceling a drug and are persistent, irreversible. In this research, we consider primarily the tardive dystonia (TD). The clinical manifestations of TD are generally similar to idiopathic dystonia. TDs often is focal or segmental, typically beginning with the muscles of the face or neck.

To date, there are several therapeutic approaches to the problem of hard dystonias. The first is replacement with an atypical antipsychotic. It is important, that in case of fast canceling the drug, the severity of dystonia may even increase, at least for a while, while increasing the dose of the drug often creates the effect of reducing the severity of dyskinetic movement ("masked" dystonia). Often, clozapine is preferred as a drug that has not only an antipsychotic, but also a direct antidiskinetic effect. Anticholinergic drugs should be used with caution because of the risk of worsening TD, as well as because of the negative effect on cognitive function. Clonazepam, proven in several double-blind randomized trials, has a moderate therapeutic effect. Also, the herbal drug ginkgo biloba, as well as amantadine, has certain positive effect on dystonia. In case of focal forms, it is possible to use botulinum toxin type A. Tetrabenazine, which was developed to correct chorea in Huntington's disease, is used off label. Also two drugs that are similar in structure to tetrabenazine are also approved by FDA - a inhibitor of vesicular monoamine transporter 2 (VMAT2) - valbenzine and deutetrabenazine, which is isotopic isomer of tetrabenazine. Also DBS GPI could be used for treatment TD. According to the literature, the improvement of motor status occurs on average by 60-80%.

The aim of this work is to summarize the clinical experience of observing two patients with tardive dystonia who underwent DBS surgery.

Subjects and methods: Two patients are under observation in N.N. Burdenko neurosurgery center. The first case is 29-year-old patient (observation 1), treated with neuroleptics for panic attacks and anxiety-depressive disorder, developed severe pharmacoresistant late neuroleptic dystonia. The indication for the operation was pronounced disability due to movement disorders. The patient underwent DBS surgery, electкodes were implanted in the inner segment of the globus pallidus bilaterally (DBS GPi). The second case is a 26-year-old patient (observation 2), suffering from schizophrenia with polymorphic obsessive-compulsive disorder (obsessive thoughts, ideas, fears, rituals) and the development of severe neuroleptic dystonia/dyskinesia was also observed on the background of long-term neuroleptic administration. Patient underwernt the same surgery. For clinical evaluation of the results generally accepted quantitative scales prior to surgery and at various times of follow-up were used. The duration of observation ranged from 2 to 5 years. The next scales were used: The BFMDRS scale was used to assess the dynamics of movement disorders in patients with neuroleptic dystonia, the Y-BOCS scale of obsessive-compulsive disorder, the OCD screening test, Beck depression inventory scale, the Spielberger-Khanin anxiety inventory.

Results: Both patients with TD (observations 1 and 2) had a significant reduction in the severity of the dystonic syndrome (more than 90% on the BFMDRS scale), an improvement in the quality of life and social activity.

Conclusion: The problem of TD is an important medical and social problem and requires a comprehensive interdisciplinary approach. It is possible to DBS of inner segment of the globus pallidus, which shows a high clinical effect and reduction of dystonia.