

# 26<sup>th</sup> European Neurology Congress

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### Current therapy of Parkinson's disease

Parkinson's disease (PD) is a disease, which encompasses the central nervous system. Symptoms start gradually, sometimes in just one hand. This condition usually is the reason for rigidity and tremor. Even though PD is not curable, some medicines could considerably improve the symptoms.

**Medications:** PD patients possess low levels of dopamine in their brains. The idea of medication is to increase or substitute for dopamine.

*Levodopa-carbidopa:* The drug that goes through the human brain barrier and turns into dopamine is levodopa which is combined with carbidopa.

*Levodopa-carbidopa infusions:* Patients with advanced PD disorder can still be influenced by Carbidopa-levodopa, however their response is variable. Yet, it's administered through a feeding tube that delivers the medication in a gel form directly to the small intestine. *Dopamine agonists* imitate the consequences of the dopamine on the brain. They consist pramipexole, rotigotine and ropinirole. For fast alleviation can be used the *Apomorphine*, which is a short-acting injectable dopamine agonist. *Monoamine oxidase B (MAO-B) Inhibitors* contain selegiline, rasagiline and safinamide. Their function is to avoid the failure of the dopamine in the brain *via* constraining the MAO B enzyme of the brain. *Catechol-O-methyl transferase (COMT) inhibitors* – entacapone slightly extends the outcome of levodopa treatment through interlocking the enzyme which demolishes dopamine. One more COMT inhibitor is the Tolcapone, which can hardly be given to patients because of a danger of severe liver harm and liver failure.

*Anticholinergics:* Medicines used for decades to assist the tremor related with PD.

*Amantadine:* Amantadine alone provide short-term relief of symptoms of early PD. It could be combined with Carbidopa-levodopa treatment throughout the advanced phases of PD to regulate the dyskinesias.

**Surgical Procedures:** In deep brain stimulation (DBS), are implant electrodes into the subthalamic nucleus or the globus pallidus interna. DBS may steady the medicine variations, to decrease or stop dyskinesias, to diminish tremor and the rigidity. Also, can prevent slowing down patients' actions. Treatment of PD should be personalized.



Cura Bulgara – Atropa Belladonna roots have been empirically used for treatment of PD in 1920s in Bulgaria by healer Ivan Raev (Sopot: 1876–1938).

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## Recent Publications

1. Connolly BS, Lang AE. Pharmacological treatment of Parkinson disease: A review. *JAMA* 2014; 311:1670.
2. Ferreira JJ, Katzenschlager R, Bloem BR, et al. Summary of the recommendations of the EFNS/MDS-ES review on therapeutic management of Parkinson's disease. *Eur J Neurol* 2013; 20:5.
3. Ferreira JJ, Lees A, Rocha J-F, Poewe W, Rakol O, Soares-da-Silva P. for the Bi-Park 1 investigators (Dimitar Maslarov, Bulgaria, First MHAT-Sofia, Clinic of nerve diseases, 8 patients enrolled). Opicapone as an adjunct to levodopa in patients with Parkinson's disease and end-of-dose motor fluctuations: a randomized, double-blind, controlled trial. *Lancet Neurol*, 2015, published online Dec, 22 2015, [http://dx.doi.org/10.1016/S1474-4422\(15\)00336-1](http://dx.doi.org/10.1016/S1474-4422(15)00336-1).
4. Olanow CW, Watts RL, Koller WC. An algorithm (decision tree) for the management of Parkinson's disease (2001): treatment guidelines. *Neurology* 2001; 56:S1.
5. Rogers G, Davies D, Pink J, Cooper P. Parkinson's disease: summary of updated NICE guidance. *BMJ* 2017; 358:j1951.

## Biography

Dimitar Maslarov PhD, DSC is a professor of neurology at the Medical University of Sofia. In the nineties, he was a research fellow at the Brain Research Institute, where he worked on the stress disorders. In 2017, he defended Doctor of Science thesis on "Cerebrovascular Diseases - Current Assessments and Ideas for Improving Public Health". Author of monographs, textbooks on neurology and a manual on nursing care. Have over 200 scientific publications and more than 150 congresses and conferences participations. He is a member of the Scientific Panels of Neurocritical Care and Palliative care at the European Academy of Neurology and Member of the International Scientific Committee of the SSNN. He is on the Management Board of the Bulgarian Society of Neurology and Chairman of the Sofia Branch. Member of the Editorial Board of Bulgarian Neurology and Deputy Director Editor-in-Chief of the Editorial board of the Health and Science Magazine.

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