

On the Treatment of a Patient with Ataxic Syndrome by Microdoses of Levo- and Carbo-Dopa. Post COVID Treatment

Tarro G.

President of the T.&L. deBeaumont Bonelli
Foundation for Cancer Research, Naples, Italy

Raiderman D.

Treating Doctor of Biocorrection
Medical Center Klain International Consulting LTD, Israele

ABSTRACT

The neurological evaluation and the report of the physiotherapist are described for a patient who from 2018 was blocked by neurological status with different problems that concerned his different functions of the nervous systems on coordination and balance, motor exam and even speech, after the treatment with microdoses of Sinemet CR for two months. The satisfaction is reported by the neurologist regarding the results on the patient recovery. Post COVID disorders are suggested to be treated with special indication for long COVID.

Keywords: biocorrection, levo- and carbo-dopa, ataxic syndrome, cerebellar neuropathy, long COVID.

INTRODUCTION

The dramatic nature of problems which are related to demyelinating diseases of the central nervous system (CNS) and which constitute true social illness, and also the fundamental importance to investigate their reasons determine the theme of encephalopathy detection and therapy as among the most interesting themes of medical science.

The authors also disclose difficulty of scientific progress in neurology by addressing the audience whose representatives already have good knowledge about the problem which is specifically difficult in relation to their therapy.

In several apparently unrelated neurological pathologies such as dystonia cerebral palsy, encephalopathy, Alzheimer's disease, Huntington's Chorea, epilepsy, certain dementia related syndromes, amblyopia, attention deficit disorder[, and autism, there is some evidence of unbalanced dopaminergic axis function with a specific abnormality of dopamine metabolism often occurring among subjects^{1,2}.

Dopamine is a neurotransmitter in the catecholamine and phenethylamine families that plays a number of important roles in vertebrates brains and bodies^{3,4}.

The dopaminergic system plays a central role in a number of important medical conditions, including Parkinson's disease, attention deficit disorder, schizophrenia, and even certain substance abuse disorders^{5,6}.

In individuals with some of these disorders, abnormal catecholamine excretion can be expected.

These disorders cannot be treated curatively. However, it has been shown that some symptoms in these medical conditions are caused by enzymopathy of enzymes responsible for dopamine synthesis and it can be overcome (at least in part) by stimulating the dopamine synthesis system by administering specific amounts of L-dopa to the patient suffering from the syndrome. The patented treatment method is based on natural metabolites in physiological doses.

The dose of L-dopa to be given to a person suffering of one of these conditions caused by abnormality dopamine metabolism has to be calculated very accurately specifically according to various individual parameters of the subject. These include the excretion patterns as well as micro-symptoms evaluation. The response to dopamine deficiency replacement is dose dependent and overdosage might result in lack of therapeutic efficacy.

METHODS

Proximate medical history: In October 2011, at the age of 29, acute / subacute onset of ataxic syndrome characterized by marked dysarthria with difficult to understand speech and severe postural instability with impaired autonomous walking, only possible with bilateral support. A febrile episode lasting a few days with temperatures above 37-38 degrees is traced back to the week preceding the onset of the disease. He therefore practiced MRI of the brain and medulla in toto with contrast medium and results in the norm. This was followed by admission to the Salerno hospital where MRI of the brain was confirmed negative; at the lumbar puncture, evidence of mild hyperprotidorrachia, negative PCR for viral nucleic acids: he was then treated with a corticosteroid seal without benefit. Over the following years he made numerous hospitalizations (in Siena, Rome, Milan) in which he practiced: - repeated brain MRI found to be normal; - Ab dosage in the brain: negative; - lactic and purivic acid dosage, lysosomal enzymes, glucocerebrosidase, vitamin b12 and folate, vitamin E: normal; -TC total-body with contrast medium in the suspicion of one s. paraneoplasty: negative; autoimmune screening: negative; - genetic investigations for the search for mutations in SCA 1-2-3-4-5-6-7-8-12-17; FXTAS; FRDA; APTX (AOA1): negative; -SEP slightly altered in an inconsistent manner during the various hospitalizations; - neuro-ophthalmological evaluation carried out at the besta of Milan: finding of conuigated vertical nystagmus beating upwards in the upward gaze. In 2012 he practiced a cycle of psychotherapy for three months and took Cymbalta without any modification of the symptoms. REMOTE MEDICAL HISTORY. Congenital clubfoot on the right, surgically treated at the age of 3 months and subsequent reoperation at the age of 5. In May 2011 he underwent surgery on his left knee following which he undertook rehabilitation therapy and from which there was only some difficulty in walking without compromising autonomy. DIAGNOSIS Acute onset ataxic syndrome Oculomotor apraxia. Degenerative-axonal suffering of the peripheral sensitive nerve fibers of greater caliber affecting the lower limbs. Damage towards the central slope of the central acoustic pathway due to stimulation of the left ear. Case under observation.

At this stage, the following micro-doses of Sinemet CR which are adequate for use: 35 mg Sinemet CR in the morning and 25 mg Sinemet CR in the evening. This is the official name of the medicine:

SINEMET CR 200/50. www.nps.org.au/medicine-finder/sinemet-cr-controlled-release-tablets. The morning dose should be taken at the following times: at 8:00 am after a regular breakfast. The evening dose should be taken: at 18:00 pm. It is very important that the pharmacist will weigh the necessary micro-doses of the medication prescribed as accurately as possible, using electronic scales.

Regarding the Method of Treatment. The Biocorrection Ltd is howner of an innovative personalized medicine approach allowing tailoring of precise and optimal dopaminergic balance of the brain. Such treatment has been shown to be of considerable clinical benefit. The treatment method is based on a patented system involving a device and method for diagnosing and treating various neurological conditions, which may be symptomatically improved by administration of L-dopa. The Biocorrection Ltd. method pertains to calculate a personalized dosage regime of L-dopa to improve symptoms of these medical conditions in a subject according to his urine catecholamine concentration is related to a dosage of L-dopa in the range of 1-100 mg for treating these medical conditions.

RESULTS

The patient P.D. is referred to the office for a clinical evaluation of his neurological status and therefore it is proceeded to carry out an accurate neurological examination.

Neurological physical examination: alert consciousness; understands simple and complex orders and is oriented in time and space, short and long-term memory is normal, mental capacity on the whole is normal, ideation is normal and speech is consistent in logical and associative connections while the examination of the expressive language presents the classic word marked by marked dysarthria of speech with a depressed and at times incomprehensible word, absence of dysphagia, slight first degree ocular nystagmus is revealed in the upward vertical conjugate gaze, to the upper and lower limbs score of 4/5 on the strength test of the MRC scale with slight increase in tone in the lower limbs and bicipital, triceps, brachioradialis and patellar hyporeflexia and yarrow to the R.O.T test; Pathological pyramidal reflexes of the Babinski series absent, superficial sensitivity within the limits but the deep or pallesthetic one appears at the lower limits of the norm, in the cerebellar tests with closed eyes, dysmetria and incoordination in the index-nose and heel-knee tests with telekinetic frenage are revealed. Finally, adiadokokinesia is noted in the supination-pronation tests, the upright position and walking are ataxic and impossible without bilateral support of crutches.

Psychic examination: negative psychiatric history while there are mild somatic disturbances of anxiety and general mood of the reactive type or secondary to a general medical condition.

Exams performed: substantially negative ENG-EMG examination and PESS evoked potentials showing findings compatible with a neurodegenerative axonal suffering of the sensitive peripheral nerve fibers of greater caliber (proprioceptive fibers) affecting the lower limbs and a sensorineural hearing loss of the central acoustic pathway for left ear stimulation, brain MRI examination and FDG PET-CT examination of the brain both negative for intracranial foci lesions.

Diagnostic orientation: ends in cerebellar ataxia with acute onset with speech dysarthria with notes of peripheral neuropathy prevalent in the lower limbs of a degenerative-axonal type and mild hearing loss due to left sensorineural transmission.

During the exam, the doctor tested different functions of the nervous system, coordination and balance, motor exam, reflexes, coordination and gait, sensation, cranial nerves, and the latest report from the speech therapist.

Treatment of patient's for the most objective indication of the success of the patient's treatment and comparative assessment of neurological status before the start of treatment (16.07.2022) and 2 months after the start of treatment (16.09.2022).

We note all the improvements received in 2 months:

- gait -much better:
- step length increase
- Coordination of movements is much better and continues to improve
- total increase in muscle strength (first of all - legs and lower limbs - 17 squats)
- general well-being and energy during the day
- improvement of fine motor skills (computer printing and SMS)
- speech, voice - much better:
- hearing - much better:

Regarding the Method of Treatment :

We have improved and simplified the Method of Treatment as much as possible:

- We use new, more accurate micro dosages: 10mg, 5 mg, 2.5 mg
- No need to do pre-prognostic testing
- A new, improved diagnostic protocol based on the clinical presentation and relevant micro-symptomatology in the routine stage examination of a neurologist
- No more than 4 analyses per year are sufficient
- The computer program processes the results of the analysis and provides personalized individual doses for each patient at each stage of treatment

DISCUSSION

The range of diagnoses is significantly expanded, including post-covid disorders:

"Motor disorders related to brain disease, cerebral palsy, encephalopathy, fibromyalgia, epilepsy, Down's syndrome, autism, strabismus, coma, restless leg syndrome, developmental disability, hyperprolactinaemia, central type hearing loss, central type vision loss, cerebral metabolic disorders, tremor including Parkinson's disease, Alzheimer's disease, leukodystrophy, Lafora disease, also called Lafora progressive myoclonic epilepsy or MELF, Huntington's Chorea,, Chorea (or choreia, occasionally) is an abnormal involuntary movement disorder, one of a group of neurological disorders called dyskinesias, Attention Deficit Disorder, Attention Deficit Hyperactivity Disorder (ADHD), Tyrosine Hydroxylase deficiency, Brain injury, progressive infantile encephalopathy, loss of thinking ability, neurological disorders , loss of cognitive ability, Long Covid and any combination thereof"⁷⁻²².

Biocorrection is applicable to cerebral palsy, encephalopathy, demyelinating diseases, posttraumatic paralyses, spinal cord traumas, postinsult and postinfectious paralyses, macro- and microcephaly, autism, dyslexia, etc.

We receive the results of the neurohormonal analysis of urine and send out recommendations of individual L Dopa micro dose based on our patented method.

We use some principles of biocorrection in the method of treatment and diagnosis, but our New Method of Treatment is maximum modernized as possible, and fully corresponds to the level of modern medicine and its needs in all parameter including postcovid disorders²³.

Some people with coronavirus suffer from post covid syndrome²⁴. Today , there is no official protocol for post covid syndrome treatment. Treatment is symptomatic²⁵.

We have an innovative patented technique that allows us to compensate very efficiently and quickly for neurohormone metabolism disorders that cause many neurological and cognitive disorders that occur in such patients²⁶.

This technique has already proven well in the treatment of dopamine fasting^{27,28}.

CONCLUSION

The deep knowledge of the subject matter enables to transfer the issues of disease etiology and pathogenesis to the sphere of their sociology^{29,30}.

We expect that this paper will be helpful not only in the study and analysis of neuropsychiatry but also in drawing large public attention which has too often been ignored in dealing with the problems of public health³¹.

The importance of this paper the uniqueness and effectiveness of our new method of treatment in the individualization of drug microdoses based on the results of urine analysis and their accurate personal distribution by time of day.

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References

1. Furukawa Y, Graf WD, Wong H, Shimadzu M, Kish SJ: Dopa-responsive dystonia simulating spastic paraplegia due to tyrosine hydroxylase (TH) gene mutations. *Neurology* 2001, 56: 260-263.
2. Furukawa Y, Kish SJ, Fahn S: Dopa-responsive dystonia due to mild tyrosine hydroxylase deficiency. *Ann Neurol* 2004, 55: 147-148.
3. Furukawa Y: Update on dopa-responsive dystonia: locus heterogeneity and biochemical features. *Adv Neurol* 2004, 94: 127-138.
4. Brunstrom JE, Bastian AJ, Wong M, Mink JW: Motor benefit from levodopa in spastic quadriplegic cerebral palsy. *Ann Neurol* 2000, 47: 662-665.
5. Karlov VA, Gleiser MA: Reactivity of the dopa-dopamine-noradrenaline-adrenaline system in epileptic patients. *Neurosci Behav Physiol* 1986, 16: 49-53.

6. Mann DM, Yates PO, Marcyniuk B: Monoaminergic neurotransmitter systems in presenile Alzheimer's disease and in senile dementia of Alzheimer type. *Clin Neuropathol* 1984, 3: 199-205.
7. Mann DM, Yates PO, Marcyniuk B: Dopaminergic neurotransmitter systems in Alzheimer's disease and in Down's syndrome at middle age. *J Neurol Neurosurg Psychiatry* 1987, 50: 341-344.
8. Leguire LE, Rogers GL, Bremer DL, Walson P, Hadjiconstantinou-Neff M: Levodopa and childhood amblyopia. *J Pediatr Ophthalmol Strabismus* 1992, 29: 290-298.
9. Leguire LE, Walson PD, Rogers GL, Bremer DL, McGregor ML: Longitudinal study of levodopa/carbidopa for childhood amblyopia. *J Pediatr Ophthalmol Strabismus* 1993, 30: 354-360.
10. Leguire LE, Rogers GL, Bremer DL, Walson PD, McGregor ML: Levodopa/carbidopa for childhood amblyopia. *Invest Ophthalmol Vis Sci* 1993, 34: 3090-3095.
11. Leguire LE, Walson PD, Rogers GL, Bremer DL, McGregor ML: Levodopa/carbidopa treatment for amblyopia in older children. *J Pediatr Ophthalmol Strabismus* 1995, 32: 143-151.
12. Leguire LE, Rogers GL, Walson PD, Bremer DL, McGregor ML: Occlusion and levodopa-carbidopa treatment for childhood amblyopia. *J AAPOS* 1998, 2: 257-264.
13. Leguire LE, Jende DL, Nairus TM, Walson PD, Rogers GL, Bremer DL et al.: Levodopa-carbidopa and childhood retinal disease. *J AAPOS* 1998, 2: 79-85.
14. Roman T, Schmitz M, Polanczyk G, Eizirik M, Rohde LA, Hutz MH: Attention-deficit hyperactivity disorder: a study of association with both the dopamine transporter gene and the dopamine D4 receptor gene. *Am J Med Genet* 2001, 105: 471-478.
15. Roman T, Rohde LA, Hutz MH: Polymorphisms of the dopamine transporter gene: influence on response to methylphenidate in attention deficit-hyperactivity disorder. *Am J Pharmacogenomics* 2004, 4: 83-92.
16. Roman T, Polanczyk GV, Zeni C, Genro JP, Rohde LA, Hutz MH: Further evidence of the involvement of alpha-2A-adrenergic receptor gene (ADRA2A) in inattentive dimensional scores of attention-deficit/hyperactivity disorder. *Mol Psychiatry* 2006, 11: 8-10.
17. Roman T, Rohde LA, Hutz MH: A role for neurotransmission and neurodevelopment in attention-deficit/hyperactivity disorder. *Genome Med* 2009, 1: 107.
18. Gadow KD, Pinsonneault JK, Perlman G, Sadee W: Association of dopamine gene variants, emotion dysregulation and ADHD in autism spectrum disorder. *Res Dev Disabil* 2014, 35: 1658-1665.
19. Sivam SP: Dopamine, serotonin and tachykinin in self-injurious behavior. *Life Sci* 1996, 58: 2367-2375.
20. Tong J, Fitzmaurice PS, Ang LC, Furukawa Y, Guttman M, Kish SJ: Brain dopamine-stimulated adenylyl cyclase activity in Parkinson's disease, multiple system atrophy, and progressive supranuclear palsy. *Ann Neurol* 2004, 55: 125-129.
21. Wong DF, Ricaurte G, Grunder G, Rothman R, Naidu S, Singer H et al.: Dopamine transporter changes in neuropsychiatric disorders. *Adv Pharmacol* 1998, 42: 219-223.
22. Perry D, Birthi P, Salles S, McDowell S: Neuroleptic malignant syndrome associated with the use of carbidopa/levodopa for dystonia in persons with cerebral palsy. *PM R* 2012, 4: 383-384.
23. Nataf S. An alteration of the dopamine synthetic pathway is possibly involved in the pathophysiology of COVID-19. *J Med Virol* 2020; doi: 10.1002/jmv.25826.
24. <https://pubmed.ncbi.nlm.nih.gov/32246784/>
25. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7267273/>
26. Romero-Sánchez CM, Díaz-Maroto I, Fernández-Díaz E, et al. Neurologic manifestations in hospitalized patients with COVID-19: The ALBACOVID registry. *Neurology*. 2020;95(8):e1060-e1070.
27. Czeisler MÉ, Lane RI, Petrosky E, et al. Mental Health, Substance Use, and Suicidal Ideation During the COVID-19 Pandemic — United States, June 1–30, 2020. *MMWR Morb Mortal Wkly Rep*. 2020; 69:1049–1057.

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28. Forte G, Favieri F, Tambelli R, Casagrande M. COVID-19 Pandemic in the Italian Population: Validation of a Post-Traumatic Stress Disorder Questionnaire and Prevalence of PTSD Symptomatology. *Int J Environ Res Public Health*. 2020;17(11):4151.
 29. Berthelot N, Lemieux R, Garon-Bissonnette J, et al. Uptrend in distress and psychiatric symptomatology in pregnant women during the coronavirus disease 2019 pandemic. *Acta Obstet Gynecol Scand*. 2020; 99: 848–855.
 30. Restauri N, Sheridan AD. Burnout and Posttraumatic Stress Disorder in the Coronavirus Disease 2019 (COVID-19) Pandemic: Intersection, Impact, and Interventions. *J Am Coll Radiol*. 2020;17(7):921-926.
 31. <https://medium.com/swlh/dopamine-fasting-2-0-the-hot-silicon-valley-trend-7c4dc3ba2213>