

# New Approaches to Diagnostics and Therapy for COVID-19

Djumaeva N., MD, PhD, e-mail: [naila.djumaeva@gmail.com](mailto:naila.djumaeva@gmail.com)

Out-Patient Department of the Scientific-Research Institute of Virology, Tashkent, Uzbekistan address: 7A Yangi Shahar Street, Tashkent, 100194

Out-Patient Department Reference Laboratory of the Scientific-Research Institute of Virology, Tashkent, Uzbekistan

## Abstract

Although several clinical trials are now underway to test possible therapies, the issue of reliable therapy for COVID-19 remains debatable. We report here the new approach to individual selection of Dexamethasone and Ribavirin doses used in COVID-19 therapy. For the first time “the device for transmission of Ribavirin pharmacological properties to a human body” was used to eliminate the virus from the COVID-19 patients' body quickly and safely. Dexamethasone and Ribavirin are included in the WHO List of Essential Medicines . The proposed method of “medicament testing” as well as the application of “the device for transmission of Ribavirin pharmacological properties to a human body” need further investigation for possible benefits for coronavirus infection therapy.

**Key Words:** Dexamethasone; Individual selection of doses; COVID-19; Medicament testing; Ribavirin; Transmission drug properties into a human body;

## Introduction

Coronavirus disease of 2019 (COVID-19) is the disease caused by the new coronavirus, termed Severe Acute Respiratory Syndrome of Coronavirus 2 (SARS-Co-2). The diagnosis is usually based on detection of SARS-CoV-2 by PCR testing of a nasopharyngeal swab or other specimen and serologic (antibody) tests. Many laboratories of the world are occupied with searching new antiviral drugs to eliminate SARS-CoV 2.

For the first time the method of “medicament testing” (MT) was used to make diagnosis of COVID-19, reveal its foci in the patient's body, and select the doses of Dexamethasone and Ribavirin. Also for the first time “the device for transmission of pharmacological properties of medicine to a human body” (DTMP) was used to eliminate the virus from the body of the COVID-19 patient fast and safely.

## Materials and Methods

Twelve COVID-19 patients (ten females, two males, aged 14-64 years) were involved in the study. The examination and observation of the patients were carried out at the Out-Patient Department of the Scientific-Research Institute of Virology under the MoH, Uzbekistan in July - September 2020. The condition of the patients was defined as mild in 8 patients and of moderate severity in four patients. The study included PCR tests for the COVID-19 (QIAGEN RNA, USA) and serology tests with Chemiluminescence Immunoassay Immuno (Cia, China). The lungs of the patients were examined by multi-spiral computer tomography (MSCT) before and at different stages of the treatment. In addition, complete blood cell count, tests for detection of: D-dimer, liver function tests, blood sugar, ECG if necessary were made. MT aimed at selection of Dexamethasone and Ribavirin doses was carried out by the expert in with 30-year experience using Akuport M1 + (KINDLING, Germany) [1]. The method of testing the daily doses of medicine was patented [2]. Additionally, the “RNA- dependent RNA polymerase” nozode was used to identify the virus in the process of MT. In order to transmit the

properties of drug to the patient's body the DTMP was used [3]. In the Russian patent, the light source is a helium-neon laser. However, we used the red low level laser with 650 nm wavelength and power P = 15 mW. The method of treating somatic diseases developed by the first author of this article was patented in 2009 [4]. All the patients signed the informed consent to participate in the study.

**Results**

At the time of presentation of the four patients, their PCR was positive and, according to their case history, they felt infected just before their referral to the Out-Patient Department of the Research Institute for Virology. The MSCT of the lungs of all these patients demonstrated the inflammatory changes in the lungs of the virus etiology. For the 30-years experience of application of the MT technique, the author of the method had developed the algorithm of MT that starts with examination of the axis of the hypothalamus-hypophysis-adrenal gland cortex. What was evident from the very beginning of MT in COVID-19 patients? Despite the disease duration, all 12 patients had signs of damaged functions of the adrenal gland cortex

(ADGC) (testing was made on the acupuncture points 1 End-D, S) [5]. These findings necessitated selection of corticosteroid doses to restore the function of the adrenal glands with Dexamethasone. In three PCR positive patients, the Dexamethasone dose in the projection of the ADGC in the acupuncture points mentioned above was 0.25 - 0.75 mg. Only in one PCR positive female patient (with the long history of severe diabetes mellitus, BMI = 34.0, hyperlipidemia and hypertension), the Dexamethasone dose in the projection of adrenal glands was 1.125 mg. In the same patient, the Dexamethasone dose in the lung projection (the acupuncture points 11 Lu-D, S) was 1.375 mg. The patients complained of fatigue (10 patients), sore throat (3), gastrointestinal symptoms (2), breathlessness (6), fever (7), cough (2), headache (2), myalgia. The tested Dexamethasone doses in the ADGC projection in other patients ranged from 0.25 mg to 1.5 mg. The Dexamethasone tested doses in the lung projection in the patients with a mild severity of the diseases were 0.25 - 1.0 mg. In patients with the moderate severity of the disease, it made 1-3.5 mg. **Table 1** illustrates the results of MT in selection of Dexamethasone doses.

**Tested doses of Dexamethasone in patients with COVID-19. Table 1**

Patient	Age	Adrenal glands		Lungs		Thoracic duct		Pancreas	Spleen
		dexter	sinister	dexter	sinister	dexter	sinister		
1	54 y.o	1.125 mg	1.0 mg	1.375 mg	1.25mg	abs	abs	abs	abs
2	44 y.o	1.125 mg	0.625 mg	abs	1.0mg	abs	abs	abs	abs
3	35 y.o	abs	abs	abs	0.375mg	abs	abs	abs	abs
4	14 y.o	0.5 mg	0.5 mg	0.75 mg	0.75mg	abs	abs	abs	abs
5	63 y.o	1.5 mg	0.25 mg	abs	abs	1.5 mg	0.5 mg	abs	abs
6	63 y.o	0.75 mg	1.25 mg	1.0 mg	2.75 mg	1.5 mg	1.25 mg	abs	abs
7	29 y.o	0.5 mg	0.625 mg	abs	0.75mg	abs	abs	abs	abs
8	64 y.o	abs	0.25 mg	abs	aba	abs	0.125 mg		
9	63 y.o	abs	0.375 mg	abs	0.5mg	abs	abs	abs	abs

10	53 y.o	0.5 mg	0.5 mg	abs	abs	abs	abs	abs	abs
11	38 y.o	0.75 mg	0.75 mg	abs	0.5mg	0.75 mg	0.5 mg	abs	0.5 mg
12	44 y.o	1.75 mg	1.5 mg	3.0 mg	3.5mg	1.75 mg	2.0 mg	0.75 mg	0.5 mg

MT determining the Ribavirin dose was carried out primarily in the projection of the lungs. In addition, as mentioned earlier, the author of the method used the "RNA-dependent RNA polymerase" nozode to identify the virus in the process of MT. This nozode enabled to reveal the virus in the pulmonary tissue as well as in the following organs

projections: lungs (11 patients), the thoracic duct (10), oropharynx (7), pancreas (5), heart (3) and spleen (8). MT of these organs was made on the following acupuncture points: (8a, 8b Kr, D,S; 1a Lym,D,S; 3 Lym,D,S; 1a Pank.,D,S; 1a Mil.,D,S; 8d,8f,Hers.,D,S; 2 End, D,S; 3 Nerv.D,S; 2 Leber.D,S; 2 Dick.S). **Table 2** demonstrates the results of selection of Ribavirin doses.

**Tested doses of Ribavirin (Copegus, F Hoffmann- La Roche Ltd). Table 2**

Pati ents	Age	Lungs		Oropharynx		Pancreas	Spleen	Thoracic duct		Heart	Brain
		Dexter	Sinister	Dexter	Sinister			Dexter	Sinister		
1	54 y.o	500 mg	400mg	600mg	400mg	700 mg	300mg	abs	abs	abs	abs
2	44 y.o	600 mg	600mg	abs	abs	200 mg	150mg	100mg	100mg	abs	abs
3	35 y.o	abs	150mg	abs	abs	abs	abs	abs	abs	abs	abs
4	14 y.o	300mg	200mg	200mg	50 mg	abs	abs	200mg	100 mg	abs	abs
5	63 y.o	200 mg	1200 mg	300mg	300mg	100mg	200mg	800 mg	100mg	200mg	abs
6	63 y.o	600mg	1600m g	100mg	100mg	abs	abs	abs	800mg	150mg	200mg
7	29 y.o	350mg	500 mg	abs	abs	abs	150mg	100mg	50mg	abs	abs
8	64 y.o	abs	abs	100mg	150mg	abs	abs	abs	50mg	abs	abs
9	63 y.o	1500mg	1600m g	abs	abs	350mg	200mg	abs	abs	200mg	abs
10	53 y.o	100mg	100mg	abs	abs	abs	200mg	abs	150mg	abs	abs
11	38 y.o	abs	200mg	100mg	200mg	abs	100mg	250mg	100mg	abs	abs
12	44 y.o	2200mg	2400m g	200mg	100mg	300mg	200mg	300mg	400mg	abs	200mg

The highest tested dose of Ribavirin in COVID-19 patients was registered in the lungs and reached 200 - 2400 mg. The Ribavirin tested doses in other organs of the patients were always lower (100-400 mg). The exception was made by the patient with severe diabetes mellitus described above, where the tested dose of Ribavirin in the pancreas projection made 700 mg while in the lung projection it was 500 mg.

To treat the COVID-19 patients the DTMP was used. In the earlier research on application of the device in the treatment of patients with chronic virus hepatitis B and C, the high efficiency of the application of this device has been shown[6,7]. The DTMP is a hollow cylinder in the field of which the medicament is placed. The hollow cylinder is made from non-electro-conductive substance (dense cardboard) around the outer surface of which, a spiral of light conducting fiber connected to the light source is running. As a light source, the red low level laser

with wavelength equal to 650 nm and power  $P = 15$  mW is used. The application of the DTMP includes several stages: at the first stage, the organs involved in the pathological process were determined by MT with “the RNA-dependent RNA-polymerase” nozode, then the Ribavirin dose was selected in the affected organs. After that, the patient laid down on a couch in the supine position. Ribavirin was placed into the internal space of the cylinder, which was positioned on the patient’s body above the affected organ. Then the cylinder was closed with a cover and the laser apparatus was switched on. The duration of the session ranged from 5 to 30 minutes. After completion of the procedure, the laser device was disconnected and 4-10 minutes later the device was ready again for another exposure. The patient did not feel anything when the laser device was switched on or off and even did not notice it.

All the patients experienced one exposure session of the device with Ribavirin. Each patient was closely observed every day. The outcome of the exposure with Ribavirin was determined and showed that 24 hours after the procedure *no coronavirus was detected in the patients any more*. This conclusion was made on the ground of the negative response of the exposed organ to “the RNA-dependent RNA polymerase” nozode in the MT process, which was confirmed by the zero response to the tested dose of Ribavirin. To illustrate this phenomenon I describe two cases of application of the DTMP with Ribavirin placed into the device.

**Case report 1.** A 38-year-old woman was referred to the Out - Patients Department with complains of 4-day diarrhea, fever, breathlessness and weakness. The patient thought that she had had the contact with a COVID-19 patient five days before the admission. She appeared comfortable, with unlabored breathing. Her temperature was 37.8°C, the pulse was 125 beats/min, BP was 100/75 mm Hg, RR was 18 breaths/min, and the oxygen saturation was 97 % when she was breathing in the ambient air. The respiratory effort and breath sounds were normal, and the rest of the physical examination findings were normal as well. A nasopharyngeal swab test for SARS-CoV-2 RNA was positive. The medical history was unremarkable. The patient did not take any medicaments. There were no known allergies. The patient was divorced and lived with her 6-year-old daughter.

The MSCT of the lungs obtained before the therapy revealed: axial cut, soft-tissue window. A slight increase in the lymph nodes of the hilar region on the right (A) and on the left (B) is determined, the structure of the lymph nodes is unchanged, the contours are preserved.



**Figure 1. Case Report 1 (Before the therapy)**

The patient was examined by MT, that revealed a decrease in the functions of the ADGC in the both sides. The tested Dexamethasone dose was 0.75 mg for each adrenal gland. At the next MT stage, “the RNA-dependent RNA-polymerase” nozode and Ribavirin were used to reveal possible foci of COVID-19 in the body. According to MT results, the COVID-19 foci were revealed in the left lung, thoracic duct, in the projection of the back wall of the throat, spleen and sigmoid colon. The Ribavirin doses in these organs ranged from 100 mg to 300 mg. In the projection of the left lung, the Dexamethasone dose was 0.5 mg. The therapy with the DTMP was offered to the patient. The patient agreed to start the treatment. The therapy of the patient was conducted according to the scheme described above. On the following day, no coronavirus was revealed in the body of the patient. The MSCT of the lungs obtained after the therapy demonstrated complete restoration of the lung parenchyma. However, MT of the left lung showed Dexamethasone in the dose of 0.25 mg. The patient was recommended to continue the therapy with Dexamethasone in the tested dose for the next 7 days. Since the patient was admitted with a history of the disease not exceeding the “windows” period, the changes in her lungs were not expressed. Nevertheless, the doses of Ribavirin were tested, that required therapeutic intervention and contributed to the disappearance of the previously existing changes in the lung lymph nodes. The MSCT of the lungs obtained after the therapy revealed: axial cut, soft-tissue window. No pathological changes in the projection of the roots of the right (A) and left (B) lungs revealed



**(Figure 2. Case Report 1 (After the therapy)).**

**Case report 2.** A 64-year-old woman was referred to the Out - Patient Department with complaints of fatigue, cough, malaise, fever. For seven days before her visit she had felt fever, chills, fatigue and diffuse myalgia. The patient also noted dry cough and reduced fluid intake. She appeared uncomfortable and told about mild dyspnea. Her temperature was 38.4°C, the pulse was 125 beats/min, BP 160/100 mm Hg, RR 22 breaths/min, and the oxygen saturation was 91 % when she was breathing the ambient air. The auscultation of the lungs revealed weakened breath sounds. A nasopharyngeal swab test for SARS-CoV-2 RNA was positive. The patient's history included COPD, hypertension, hyperlipidemia, obesity. Her current medications included Amlodipine, statins, Omeprazole, Metformin. For the last four days she had taken prescribed Ceftriaxone 1.0 mg bid. There were no known allergies. The patient was a widow and lived with her three children.

The patient was examined by MT that showed a decrease in the functions of the ADGC in the both sides. The tested Dexamethasone dose was 0.75 mg for the right adrenal gland and 1.25 mg for the left one. Besides, the Dexamethasone dose was also tested in the projection of the following organs: the thoracic duct with the dose of 1.5 mg, while in the projection of the left lung, the Dexamethasone dose made 2.75 mg.. According to MT results with application of the "RNA-dependent RNA-polymerase" nozode, COVID-19 foci were revealed in the both lungs, thoracic duct, in the projection of the back wall of the throat, heart, brain and spleen. The Ribavirin doses in the examined organs ranged from 100 mg to 1600 mg. The therapy with DTMP was offered to the patient, and she agreed. The therapy of the patient was carried out at a single session according to the scheme described above. For next 3 days after the exposure the patient had felt hyperhidrosis and weakness. The repeated MT examination of the patient in 5 days using the "RNA-dependent RNA-polymerase" nozode and Ribavirin did not reveal COVID-19 in the patient. However, the MT with the nozode of fungi of *Candida* genus revealed the fungal infection in the lungs; therefore, Diflucan IV injections were prescribed (100 ml for 7 days).

The lung MSCT made before the therapy revealed: axial section, pulmonary window. A. In the 4-, 5-, 8-, 9-, 10-segments of the right lung, mainly in the

central location, irregularly shaped areas of compaction are determined, presented in the form of "glass opacities", with the presence of the formation of a linear form of fibrous cord in the 5-segment right lung. Similar areas are determined in the peripheral parts of the 8-, 9-, 10-segments of the left lung. In picture B, weak areas are determined by the type of haze in the above segments, with an uneven decrease in pneumatization.



(Figure 3. Case Report 2( Before the Therapy)).

The lung MSCT made after the therapy revealed: axial section, pulmonary window. A. In the central and subpleural parts of the 7-, 9-segments of the right lung, 8-, 9-, 10-segments of the left lung, irregularly shaped areas of compaction are determined, presented in the form of "glass opacities", with the presence of an irregularly shaped fibrosis in the 8-segment of the left lung. In picture B, weakly expressed areas of the type of haze in the above segments are determined, with an uneven decrease in pneumatization. Fibrosis in the 8-th segment of the left lung.



(Figure 4. Case Report 2( After the Therapy))

### Discussion

The phenomenon of "medicament testing" is a part of electropuncture diagnosis by Voll; it enables to make an etiologic diagnostics of diseases using various nozodes [5]. In addition, the method of MT allows selecting both the medicaments necessary for therapy of various diseases and the doses of the tested medicaments individually to each patient. Originally Voll's method of "medicament testing" was proposed for selection of doses of homoeopathic preparations, but later on traditional medicine began using it [8]. The MT method includes the following stages: in the beginning, using the device for electroacupuncture diagnostics by Voll (in our case, it is Akuport M1 +), a functional condition of some organ or system of a patient is assessed to reveal the parameters detecting the affected organ or system [9,10]. At the second stage, the process of MT itself is

carried out, when various nozodes are included in the chain “a patient – the device for medicament testing” to determine the etiology of the disease in question. Then different medicaments: antifungal ones, if the patient has a fungal infection, an antibiotic (in accordance with the antibiotic-gram of the patient suffering from chronic bacterial infection), or antiviral medicament are used for individual selection of the dose of drug [11]. Currently, a similar method in conventional medicine is “therapeutic drug monitoring” based on determination of the concentration of a medicament and its metabolites in blood plasma or other biological liquids of a human body. According to a number of authors, the MT effect is explained by the “resonance phenomenon” between live objects (various pathogens) and the lifeless nature of pharmaceuticals, which are the matters of organic chemistry [12]. In 2009, Nobel Prize winner Luc Antoine Montagnier published the article where he described the ability of diluted DNA, isolated from pathogenic bacterial and viral species, to emit specific radio waves [13].

In March 2020, the RECOVERY (Randomised Evaluation of COVid-19 thERapY) trial was established as a randomized clinical trial to test a range of potential treatments for COVID-19, including low-dose Dexamethasone. According to the obtained results of this trial Dexamethasone reduces the risk of death among patients with severe respiratory complications [14]. The long-term operational experience of the author of the MT method shows, that the development of any chronic diseases is associated with changes in the functional activity of the ADGC, that suggests a certain severity of the process and helps predict the course of the disease. The author of the method believes that a decrease in the ADGC function suggests, that some organ are affected, forcing the adrenal glands to work more intensively. But the ultimate conclusion on application of a certain dose of a corticosteroid to the patient should be based on the results of MT made directly on the affected organ.

In August 2005 the “Journal of Experimental Medicine” published article “Multiple organ infection and the pathogenesis of SARS” describing the autopsy materials. The authors came to conclusion that the findings obtained by them demonstrated a widespread dissemination of the SARS virus in the immune cells of blood, the spleen, and lymph nodes, as well as in epithelial cells of the

lungs, trachea, bronchi, distal renal tubules, mucosa and submucosa of the intestines, and neurons of the brain [15].

The maximum concentration of the virus in COVID-19 patients is known to be in the cells of mucous membrane of the nasal cavity at the beginning of the process [16]. Apparently, the proximity of ciliated epithelium nasal mucosa to the posterior adjoining structures of the CNS, facilitates fast invasion of the virus into the neighboring parts of the central regulating mechanisms, providing the adequate immune response of the body along the hypothalamus – hypophysis - adrenal gland cortex (HPA) axis and causes disorders in this system. The HPA axis is a system, whose main function is to maintain basal and stress-related homeostasis[17]. Subsequently, disorders in HPA system it leads to the dysfunction of the ADGC, requiring in turn corticosteroid therapy e.g. by Dexamethasone, which for the first time was successfully used in treatment of severe COVID-19 in the epidemic in China [18].

The damage caused by coronavirus in the HPA axis seems “to pull off the blanket of immune protection”. In a human body, a great number of various microorganisms co-exists, which is in its usual condition, is under the control of the immune system of the body. As a rule, only under the influence of certain environmental and other factors, the aggravation of various chronic diseases occurs, e.g. hypothermia, seasonal aggravations, stress, etc. After a contact with COVID - 19, dramatic changes in the human immune system are observed; they lead to failures of all protective mechanisms of immunity. Hence, the rampancy of the bacterial, fungal and viral infections, which previously were under the control of the immune system, starts. This is what, as a matter of fact, occurs to a patient, when after a coronavirus invasion, the aggravation of all chronic diseases of the patient is observed. Alas, as a rule, it, first of all, is aimed at patients of a definite age, who gain a whole list of chronic diseases.

To treat the COVID-19 patients the author of the method suggested to use the DTPM. The authors of the Russian patent describing the device used, as an example of its use, patients with diabetes mellitus were presented and placed insulin in the field created by the device. The second example was a group of patients with cardiac arrhythmia and adrenaline was placed into the field created by the device. Since the goal set by the author of the method was to destroy microorganisms, some changes were

made in the Russian patent [4]. Ribavirin is used in the Protocol of therapy for COVID-19 developed by the Chinese scientists [19]. In 2014 high efficiency of Ribavirin in therapy for severe Middle East Respiratory Syndrome coronavirus infection (MERS) has been shown [20]. Having analyzed this information, we also decided to use Ribavirin in the therapy for COVID-19 patients. According to our findings, all 12 COVID-19 patients treated by us demonstrated the positive response in the form of virus destruction in their body.

Photo-bio-modulation, also known as low-level laser therapy, is the application of the red and near-infrared light in therapy of different conditions. Laser or light amplification by stimulated emission of radiation is a device transforming electromagnetic energy into the energy of a coherent, monochromatic, polarized radiation beam. In other words, laser radiation is an electromagnetic radiation and that very component which is isolated from a laser beam with the help of "the device for transmitting the pharmacological properties of a medicine" actually represents per se an unclear, apparently, not studied enough component of electromagnetic radiation. For over 40 years the biological properties of this radiation have been studied by researchers at the Institute of Clinical and Experimental Medicine of the Siberian Branch of Russian Academy of Sciences both *in vitro* and *in vivo* (21). The research revealed the ability of radiation at active mitoses and strengthening the synthesis of protein and polysaccharides. It seems that, when a medicament is placed in the field of the cylinder, the laser beam excites the molecules of a medicament with the subsequent formation of an imprint of a crystal lattice of chemical structure of a medicament which later, under the influence of a field into the cylinder, is transmitted to the patient's body at the target site. The interaction of an imprint of the crystal lattice of a chemical structure of a drug with electromagnetic radiation emitted by the pathogen, apparently, leads to the destruction of the very object, which is a microorganism (in our case, a coronavirus).

In conclusion, our research has shown that "medicament testing" is a not-invasive, reliable, fast, accessible method of obtaining the information on the disease nature, detecting the pathogen and the foci of the pathological process caused by a coronavirus; it is used to select individual doses of various medicaments, including Dexamethasone and Ribavirin in the group of COVID-19 patients. Ribavirin is the medicament of choice in the

treatment of patients with COVID-19. The use of a DTPM in the field of which Ribavirin is placed, promotes the rapid and safe elimination of COVID-19 from the patient's body.

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