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Univ.-Doz. Dr. John Ionescu is the founder and scientific director of the Neukirchen Special Clinic (Bavaria) and a lecturer at the "Carol Davila" Medical University in Bucharest . Thanks to his evidence-based research and the resulting successful diagnostic and therapeutic concept, he is one of the few therapists who has succeeded in getting statutory health insurance companies in Germany and some other countries to cover the costs of this individualized diagnostics and therapy for long-COVID and post-vaccine patients. The following sections attempt to systematically approach this problem.

"Education is not the memorization of facts, but the training of the mind to think."

Albert Einstein

#### **JOHN IONESCU**

# Evidence-based diagnostics and Therapy for Long COVID/Post-Vac in the Neukirchen Clinic

In this country, there is a lack of training and further education in the field of integrative environmental medicine or long COVID and post-vaccine syndrome. However, acceptance in society can only take place through intensive training activities with the support of the medical associations. Since the health insurance companies have recognized significant improvements in patients after three weeks of therapy in the special clinic in most cases, the Bavarian State Medical Association awarded 18 continuing education points for an initial training course on the topic of long COVID in October 2023. The continuation of therapy by the family doctor is important in order to maintain the improvement in a stable manner and enable further progress.

Unfortunately, too few colleagues are informed about the diagnostic and therapeutic options.

The Neukirchen specialty clinic has many years of experience in treating so-called environmental diseases such as MCS, CFS and fibromyalgia. As environmental physicians, we are used to being confronted with symptoms whose causes are multi-causal and must first be identified more precisely. Fortunately, health insurance companies have been covering the costs for these patients since the mid-1990s - after an intensive review of our scientific basis.

Our task is to help these people regain a better quality of life. This means diagnosing them correctly, away from the psychiatric diagnosis, and providing personalized therapy based on the identified immunobiological, nutritional and toxicological disorders. In order to be able to offer such a therapy, we first need an individual diagnosis of the provocation factors.

After referral by the family doctor, all costs for diagnosis and therapy are covered by the statutory and private health insurance companies. The special clinic offers a wide range of laboratory tests. Only a few IGe services have to be paid for by the insured person themselves.

The basic diagnosis of long COVID and post-vaccine syndrome, mostly associated with CFS, includes immunologically relevant markers of the infection or systemic side effects such as:

#### Long-COVID-specific antibodies

- · Anti-SARS-CoV-2 IgG antibodies against spike protein
- Anti-SARS-CoV-2 IgG antibodies against nucleocapsid •

Anti-angiotensin-converting enzyme 2 (ACE2) IgG antibodies

· Free-circulating spike protein

#### **GPCR** autoantibodies

- · Alpha-I adrenergic receptor antibody
- · Endothelin receptor A ETAR antibody
- · Beta1 adrenergic receptor antibody
- · Beta2 adrenergic receptor antibody
- · Muscarinic choline M4 receptor antibody ·

Angiotensin II receptor IgG antibody

#### markers of myocardial damage and coagulation

- · CK, CK-MB
- Homocysteine
- Troponin I, (NT-)proBNP D-dimers, fibrinogen

#### metabolic markers

- ATP in leukos, lactate/pyruvate ratio
- · Vit D2/D3 ratio
- Reduced Glutathione (GSH)

#### Viral Serology

- HHV 1, 2, 6 IgG, serum
- EBV IgG, serum
- CMV IgG, serum
- VZV IgG, serum

#### immune system status

- Th1 / Th2 cytokines
- · Redox status in whole blood
- Total IgEs and specific IgEs
- specific IgG4 antibodies

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What is relevant? These markers serve as evidence of the patient's illness and as markers for the effectiveness of the treatment. From the list above, it can be seen that specific antibodies for long COVID are examined first, such as IgG antibodies against nucleocapsid and spike proteins. In long COVID, we find massively increased levels of these antibodies. In contrast, post-vaccine patients who have not had COVID show the highest concentrations of IgG antispike protein antibodies and free spike proteins in the serum. Anti-angiotensin-converting enzyme 2 (ACE2) antibodies are also present in long COVID patients.

On the other hand, we know that the angiotensin II receptor I antibodies are the gateway for the virus to dock the spike proteins onto our body cells. Such autoantibodies arise as a result of the disease and maintain the collateral damage of these syndromes. They should be recorded in the basic diagnosis and in the follow-up of therapy.

What also needs to be considered in our patients are the non-covid-specific antibodies such as antinuclear, anti-dsDNA, anti-HTPO and anti-TG antibodies, for example in people with previous autoimmune diseases.

We know that one of the unwanted side effects that long-COVID patients come to us with is the reactivation of previous chronic diseases, for example latent Hashimoto's thyroiditis, lupus, rheumatoid arthritis or other autoimmune diseases that are strongly activated with repeated vaccination. In these patients, we find massively increased levels of specific autoantibodies. In most cases, the measuring devices can no longer measure the increased concentration of these antibodies.

Viral serology also plays an important role in such cases. This is because we are not only dealing with SARS-CoV-2 viruses in our patients, but in many cases also with previous viral infections, especially in environmental patients. This includes exposure to human herpes viruses 1, 2 and 6, the Epstein-Barr virus, varicella zoster virus or cytomegalovirus, i.e. the classic viruses from the Herpesviridae family, which are massively activated in post-COVID and post-vaccine syndrome. Therefore, the extremely high presence of these antibodies alone is an alarm signal for the therapist. They should recognize that these viruses also represent a problem that must be eliminated; personalized treatment of such infections is essential.

After admission of the patients in our clinic, it is extremely important to relieve the leaden fatigue that we register not only in post-vaccine and long COVID, but also in our usual CFS (Chronic Fatigue Syndrome) patients. The patient is dead tired, has been in bed for months - at least that is what affects the people who come to us. The energetics, reflected by the ATP levels in the leukocytes and the NADH levels

in the serum is significantly reduced. To compensate for this, supplementation with a proprietary and patented preparation (CellEnergy capsules) is used, with which we can significantly increase the activity of the mitochondria. The patients notice this after just three to five days. In addition, we administer NADH (nicotine

amide adenine dinucleotide, an important coenzyme in all living cells). The reduced form must be used because we are in an oxidosis state outside the cells.

Furthermore, the so-called lactate-pyruvate ratio in the blood is greatly increased. Here we observe an acidotic shift in the acid-base balance, accompanied by a shift in the redox potentials in the direction of oxidosis. A chronic oxidosis state outside the cell occurs when the oxygen supply is no longer available and redosis develops within the cell. We also know this from cancer patients.

In addition, it is known that many cancers are activated as a result of long COVID or repeated vaccinations. Furthermore, measurements of energy production through ATP and coenzyme Q10 have priority for the status quo during admission and for therapy monitoring.

The vitamin D2 and D3 ratio is also very important for the activation of vitamin D receptors on the immune cells, which are usually inhibited in post-COVID and post-vaccine syndrome. The measurement of reduced and oxidized glutathione is also relevant for this.

Inflammation markers such as free radicals have been examined in every patient in our clinic for at least 30 years. Free radicals are markers of the inflammatory processes in the patient's body, as are corresponding cytokines such as IL-1, IL-6, tumor necrosis factor-ÿ, S-100 brain barrier protein and SP100. The measurement of SP100 proteins is particularly relevant in patients with chronic pain.

Other side effects of the spike proteins that occur in the cardiac and skeletal muscles include relevant increases in creatine kinase and creatine phosphokinase for the myocytes of the cardiac and skeletal muscles as well as GPCR autoantibodies.

Elevation of troponin I and NT-ProBNP also occurs in long-COVID and post -vaccine myocarditis.

The coagulation activated by spike proteins is documented by the D-dimers and fibrinogen levels. This is accompanied by symptoms such as chronically cold extremities, how patients constantly complain.

For the immune status, it must be determined to what extent TH1, TH2 or Th17 immunity is present. We know from autoimmune diseases that some are associated with TH1 dominance and others with TH2/TH17 dominance. Therefore, the evaluation of these cytokines is relevant, both when admitting the patient to determine their status quo and when monitoring therapy. Furthermore, measurements of the total and specific IgE values are possible for immediate-type allergies, especially in long-COVID, post-vaccine and CFS patients. Measurements of the IgG4 antibodies may also be carried out.

with different specificities such as antibodies against food – should not be ignored. The results lead to a computerassisted, personalized rotation diet plan. If you avoid certain favorite foods that stimulate the activity John Ionescu 129

activation of the complement system and the degranulation of mast cells in the intestine (via IgG4), there is also a significant reduction in the symptoms associated with MCAS (mast cell activation syndrome).

Incidentally, the increased IgG4 antibodies are also very relevant for post-vaccine syndrome, which has now been documented in various studies.

Cellular sensitizations to foods or food additives can, on the other hand, be detected using an ALCAT or LTT test and the results can also be taken into account in a personalized rotation diet plan.

## Evidence-based, personalized therapy for long-COVID and post-vaccine syndrome

Based on the data obtained, evidence-based, personalized therapy can be carried out for the first time. The following key points are taken into account:

Local antiviral therapies are carried out if necessary. For nasal and oral mucous membranes, we have had very good results with 1.5% hydrogen peroxide, both in the form of mouthwashes and as nasal drops (three times a day). lodide combinations can be offered as an alternative, but these are somewhat more aggressive in comparison.

Systemic antiviral therapy is additionally administered for three to four weeks, depending on the virus strain detected (EBV, CMV, HHV, HSV).

In the case of long-term COVID disease, hydroxychloroquine, artemisinin, quercetin and L-lysine are generally recommended; the success of these treatments has been verified, and all of these preparations provide a significant control option in the treatment of post-COVID syndrome, as we have been able to determine for over two years. As a further immunomodulating and stabilizing therapy for the immune system, we primarily use vitamin C or ADEK preparations (i.e. the fat-soluble vitamins A, D, E and K) as parenteral administration intravenously or intramuscularly. As already reported in previous seminars, these preparations cause the activation of natural killer cells and vitamin D3 receptors.

Oral immunomodulators such as Arbidol or Chaga also show excellent effects, especially in the post-treatment phase, when the patient is usually no longer able to receive infusions.

If we detect a pronounced oxidosis in the patient's blood, this is also compensated with glutathione IV or unsaturated omega-3 fatty acids. Special amino acids such as lysine, taurine and carnitine also serve to improve both immune function and muscular performance.

### anti-spike therapy

Since the spike proteins are considered to be the most important pathogenetic factor, targeted therapy should result in the removal, inhibition of binding to the receptors as well as the cleavage of these molecules.

The following main procedures are used in the Neukirchen Special Clinic:

- plasmapheresis to significantly reduce circulating immune complexes, the autoantibodies and the spike proteins,
- Therapies that inhibit the binding of spike proteins to the ACE2 receptor, such as sartans, bromelain, etc., as well as
- the long-term administration of nattokinase, serratiopeptidase or bromelain (protease = collective term for protein-splitting enzymes) to break down the spike proteins and blood clots.

We have been using detoxification procedures for years in both environmental and long-COVID or post-vaccine patients due to the weakened detox function and weak energy metabolism . Their detox systems, in particular the glutathione transferases M1, T1 and P1 of phase 2, are either deleted or no longer functional or only functional to around 40% due to heterozygous mutations. The continuous accumulation of environmental pollutants results in an increasingly weak immune status of these patients. In addition, these pollutants block the mitochondrial respiratory chain, resulting in an energetic crisis, as demonstrated by the low ATP values.

To compensate for the weakened detox phase II, we at the Neukirchen special clinic regularly use liver building substances such as milk thistle extracts, accompanied by glutathione and N-acetylcysteine supplements as substrates for the conjugation reactions with pesticides, wood preservatives, phthalates and metals. Specific chelation therapies are always offered as specific metal elimination agents, depending on the epicutaneous or LTT test results.

### The intestine as a "school" for the immune system

Intestinal cleansing plays an extraordinary role in the immune modulation of patients . It has long been known that immune training originally takes place in the intestinal tract, in the so-called Peyer's patches (lymphoid structures as coverings of the intestine, where the circulating lymphoid cells come into contact with the antigens of the microflora). The immune system is trained particularly in the first six months after birth. This training can be negatively influenced by incorrect intestinal flora (e.g. after a Caesarean section, antibiotics or vaccinations).

We do not know of any patients with chronic fatigue syndrome, fibromyalgia, long COVID or cancer who show a normal intestinal flora. The microbiome is in all cases

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significantly disturbed and cannot be changed with interventions such as probiotics, which do not even reach the intestines but are destroyed in the stomach by gastric acid. Therefore, they cannot correct the pathogenic niche that has existed there for years.

Each patient has a different intestinal flora: one has an excess of fungi, another anaerobes, another pathogenic enterobacteria. Therefore, the first step is to analyze the microbiome. Then, the pathogenic strains must be eliminated, be they fungi, pathogenic enterobacteria or enteroviruses. This is the only way that the prescribed probiotics can take hold and correct years of dysbiosis, which can enable a new Th1/Th2 balance.

Conclusion

Only personalized diagnostics, followed by evidence-based integrative therapy, can enable lasting success or a return to active life in both Long COVID and Post-Vac Syndrome. Further detailed information regarding Long COVID and Post-Vac therapy will be published in another publication.