Understanding Complex Chronic Illness Through the Lens of Cell Danger Response Transcript

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Introduction to the Cell Danger Response

– Welcome today. We're going to present a model that we touch on throughout this series, the cell danger response. This is the conceptual framework that Dr. Robert Navio has been developing in his lab over the past 15 years. Gordon medical has been in conversation with him since 2013 and we supplied our chronic fatigue patients for his 2016 paper on meta below mix and chronic fatigue syndrome.

– As we've talked about the virus may or may not be detectable in the body but it did trigger a healing response. And this healing response is called the cell danger response. Now we believe understanding this concept is key to healing chronic conditions and other illnesses.

This healing cycle is triggered anytime yourself. Sense illness, infection or even stress and danger can trigger it so the virus can be gone but the cells can be stuck in a stage of healing and this can lead to chronic inflammation in this way chronic inflammation can cause long term symptoms and many of these symptoms are what we see in M.

E. C. F. S. And long covid.

Why Chronic Illness Can Get Stuck in Healing

Remember inflammation is not bad, it is required to fight infection and to restore homeostasis in the body. The problem with inflammation is when it persists – The cell danger response is your body's natural healing cycle.

Your body is designed to heal itself when you cut yourself, for example, blood blood clot quickly stopping blood flow and protecting the wound, then white blood cells flood the area, doing their job to fight infection and oversee the healing process.

Similarly, your body has built systems that trigger in response to stimuli like infections, toxins, even fear or stress, sending yourself into a cycle of healing that is actually meant to restore function again.

This healing cycle is called the cell danger response or CTR. For short and it activates any time your immune system is under threat. – The C. D. Are split into three distinct phases.

CDR one, Cdr two and C. D. R. Three now post viral conditions develop when enough of your cells get stuck in one of these three phases of self defense.

Understanding how each phase works. It helps us develop a roadmap to navigating chronic illness.

How the Cell Danger Response Works

So this is how the system works no matter what the insult when your mitochondria sense that there's danger by changing the electron flow to it. The cell danger response is turned on.

– So about c. d. r. one. This is the defense phase. It's the first phase of sailor healing and it's triggered when the cell is first injured. In other words an injury or infection turns on the healing cycle in any affected cells, mitochondria are known as the powerhouse of your cells and that's true. But they also have other jobs.

They're less known namely to defend the cells. So the mitochondria sense danger. They react intelligently by slowing down energy production and increasing oxygen concentration in the rest of the cell.

Higher oxygen levels create a hostile environment that destroys pathogenic invaders like viruses or bacteria higher oxygen levels inside the cell and the export of A. T. P.

Adenosine five triphosphate which is the energy currency of your body that goes outside the cell and literally sends signals to other cells that the cell is trying to defend itself and that there's danger nearby.

CDR1: Defense Phase and Oxidative Shielding

This results in an inflammatory response that's meant to be transient – Now at the same time that mitochondria are no longer making as much raw materials that your body needs to grow and repair.

The cell membrane itself becomes a little less permeable, decreasing cell to cell signaling. Probably most importantly making it harder for viruses to enter or exit the infected cell.

You know? So remember the virus is use the same raw materials to replicate and make more virus you know. So the cdr reaction does leave lead to oxidative stress in the body but this is something that Dr. Naviaux refers to is oxidative shielding because it's actually what your body uses to fight viruses or other infections.

The issue becomes your body gets stuck in this first healing phase. This leads to your cells to remain in the loop of constant attack mode. And this can be happening in just a small subset of cells in your body.

It's not necessarily happening in the whole body. – Unfortunately this is the phase that most post viral syndrome patients including me cFS sufferers and other sufferers of post biological insults get stuck chronic oxidative stress and inflammation, inflammation lead to those familiar symptoms we associate with infection like fatigue flu like achiness, headaches and cell and tissue damage over time.

In addition the decrease in cell to cell signaling can cause endocrine hormonal or autonomic nervous system dysfunction. All familiar traits of post viral syndromes. For years, physicians and patients were under the impression that oxidative stress automatically meant mitochondrial damage.

In reality yourself, powerhouse is appropriately defending the cell, shutting down A. D. P.

CDR2: Rebuilding and Regeneration

Production and increasing oxidative stress as a defense mechanism from that insult. Understanding this process can completely change how we approach healing chronic illness.

We stopped automatically attempting to restore mitochondrial function and instead help your system contain the damage and remove any threats so it can move into the next healing phase. C. D. R. Two. – Yes. This next phase of the cell danger response we call C. D. R. Two and it kicks in when the cell moves out of the defense phase and into a rebuilding phase. During this part of the healing process.

Your mitochondria are still not working at their full capacity to produce A T. P. But they're beginning to reconnect to their normal state. Your cells are now making more 80 P via the mitochondria than they did in the C. D. R. One and they're also using more oxygen.

So oxidative stress inside the cell dissipates the cells are also using something called anaerobic glycol icis. This is also known as the Warburg effect and it's a process of burning sugar for energy in the absence of oxygen And as both the mitochondria and the anaerobic like Wallace's produce more energy.

Your body begins regenerating and restoring new cells and restoring the damaged tissues during C. D. R.

CDR3: Recovery and Cellular Communication

Two you probably will begin to feel better but your energy still isn't at full capacity and if you stay stuck here you can be developing, you can begin developing symptoms such as high blood pressure, that insulin and glucose dis regulation and other signs of persistent tissue regeneration.

– CDR three. This is the recovery phase in CDR three. Your mitochondria are back online. They're producing normal amounts of A. T. P. And the cell membrane is healing your body rebuilds specific cells, it puts them in place and turns them back on restoring function and communication with the surrounding areas.

CDR three is also a learning phase. In the case of infection, your immune system builds antibodies to protect the threat. Sorry to protect against the threat that way. If the infection returns your immune cells will recognize it and can kill it immediately before it does more damage.

However, CDR three is still a healing phase and cells can also get stuck here perpetually confused by how to communicate or work effectively when the cell is stuck in the city are three hormone panels might look normal but the body isn't responding normally. For example a patient can have all the symptoms of hypothyroidism and the thyroid hormones look normal.

In this instance the cells aren't responding to the signals appropriately.

Root Cause Medicine and Terrain Healing

For example, output from the thyroid could be enough hormone but the receptors on the cells are not listening to that hormone. And so that's why the person gets symptoms, even though the labs might look normal now – If any C, F, S and other post viral syndromes are caused by chronic inflammation, it's not enough to just medicate camp them down.

This is what we have referred to many times. It's just shutting off the signals. Work in acute issues when the body is going to heal on its own. But if you get stuck in this we need to get to the bottom of why you're inflamed. Not just get rid of the signals.

So we have to do what we call Root cause medicine. And it's crucial because for many patients there's this, we have to remember that there's a step before we can actually target the root.

You know, especially if the disease has been ongoing for a long time. The secret is to treat the terrain by lowering toxic load and restoring immune function to allow for a healing environment. So your cells and tissues have a chance to fully recover the healing environment is at its core.

It is really painfully obvious but it's so difficult to do in our modern world that is to have a sense of safety and human beings appear to need simple things like exposure to sunlight, regular physical activity, restorative sleep, healthy nutrition and most of all periods of relaxation times when you feel connected to yourself to nature and to larger community these are the basic signals to the nervous system that there is safety and that is what we have found has been most effective for treating chronic complex illness – At Gordon Medical. It's been our life's work to find holistic solutions to complex chronic diseases like M.

E. C. F. S. Or long haul syndrome. In fact we've been practicing root cause and terrain centered medicine over symptom management for the last 20 years.

Gordon Medicalu2019s Approach to Complex Chronic Illness

Yes of course we manage the symptoms of our patients but we're always looking to modulate the terrain so in effect then we modulate the immune system. So we have been specializing in post infection infectious illnesses that have been poorly understood and poorly treated for a very long time. Now while the covid pandemic has been devastating for millions it has sparked a renewed interest and how basic immunology works.

And we're bound to see even more research supporting the root cause treatment of chronic illnesses over

disjointed approaches that keep people sick and bouncing from specialist to specialist.

– Now the cell danger response is a complex story. We don't yet know the specific triggers to move one to move from one healing phase to the other. But we do know that by restoring an environment of safety the body begins to learn on its own. And this is the normal way of healing now.

But the C. D. R. Does provide us with a road map of where to start with you where to start with the individual patient. So we can create the internal and external environment and allow your immune system to reset itself. We realize that in order to do this work you really need a customized treatment plan because every person is unique when you come to chronic illness. Sometimes it is indeed supporting mitochondrial function.

Personalized Treatment and Closing Message

Uh treatment is different for each person Many times it starts with just resettling the microbiome or sometimes it's detoxifying or getting limbic system to relax, stabilizing mass cells.

They're all part of the whole – Symptom management isn't healing you, it's only quieting the pain. It's like firing the off key violinist when you really need to hire a new conductor.

A healthy immune system is a symphony that's playing in harmony together, healing can feel like a choose your own adventure novel. And it is the road forward lies in your ability to navigate your health with trusted professionals. And so we bring you this summit to help you on your healing journey and to hear from the trusted professionals that we've interviewed our colleagues.

We thank you for joining us