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ONTARIO MEDICAL ASSOCIATION

Complementary & Integrative Medicine Medical Interest Group

CIM-MIG

Winter 2023

Our Mission

Our mission is to support physicians, residents, and medical students who have an interest in complementary and integrative medicine (CIM) therapies. We will do this by sharing information, news and events, by providing recommendations for safe, responsible and professional practice, and by communicating with stakeholders about

CIM as a valuable tool that can help Ontario's doctors deliver better healthcare.

Our Vision

Our vision is an inclusive healthcare system in Ontario, in which patients can explore their interest in complementary and integrative medicine with doctors, to ensure their safety and support their efforts to achieve better health outcomes.

In This Edition…

Clinical Resources

A Functional Medicine Approach To Long-Covid

As a functional medicine practitioner who has been treating patients suffering with ME/CFS (myalgic encephalitis/chronic fatigue syndrome) for the last 10 years, it has been exciting to see the increase in research and published articles that address post-infectious fatigue syndromes since the onset of the COVID-19 pandemic and the appearance of long-covid/PASC (post-acute sequelae of covid). While the underlying nature of the problem is yet to be fully elucidated, my hope is that the increased funding in the area will eventually lead to improved diagnostic tools and therapeutic advances.

My initial approach to treating patients with PASC is to try to understand the potential mechanisms of illness while at the same time optimizing health from a functional medicine perspective. In my experience, altered intestinal permeability (leaky gut syndrome), HPATG axis dysregulation, elevated environmental toxic burdens and nutritional deficiencies are all potential factors that can lead to immune system dysfunction and set the stage for a prolonged and inappropriate immune response to COVID infection or even COVID vaccine injury. A thorough Functional medicine interview will often identify these potential issues and allow a practitioner to investigate and treat appropriately.

A number of potential mechanisms have been proposed as drivers of prolonged COVID illness, including:

1. Micro- and/or macrovascular thrombotic disease, which appears to be common in severe COVID-19 disease.
2. An unmasking or triggering of MCAS (mast cell activation syndrome) Mast cells release proinflammatory mediators such as histamine, tryptase, chemokines, and cytokines, which may result in neurovascular inflammation which can result in “brain fog,” cognitive impairment and general fatigue.
3. The persistent presence of viral proteins or RNA which generate PAMPS (Pathogen Associated Molecular Patterns) in turn causing innate immune activation.
4. The development of autoantibodies to a variety of tissues (including G Protein Coupled Receptors –GPCRs- which can disturb the balance of both neuronal and vascular processes)
5. Dysregulation of the microbiome
6. Reactivation of other latent infections including DNA viruses like EBV, HSV and MCV, as well as Lyme and other potentially chronic bacterial infections

This list is by no means comprehensive and is likely to evolve as further research emerges.

While there aren’t any approved diagnostic tests for PASC, I do find that testing for certain markers can provide some insight into underlying pathophysiology.

Elevated ESR, CRP or ferritin suggest ongoing systemic inflammation.

Alterations in fibrinogen, antiphospholipid antibodies or anti-alpha 2 plasmin antibodies can be related to clotting dysfunction. Depending on symptoms, it may also be useful to check for tissue specific autoantibodies. As a functional medicine practitioner, I will often order comprehensive stool microbiome tests if GI symptoms are a part of the PASC symptom complex. Lab markers of MCAS are rarely helpful, so one must often rely on symptoms if suspecting a mast cell disorder.

At the time of this newsletter, there are no currently approved treatments for PASC, but we have had some success treating patients symptomatically by addressing potential underlying pathophysiology.

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2023 Integrative Medicine & Health Symposium

ABOUT. The 2023 Integrative Medicine & Health Symposium, hosted by the Academic Consortium for Integrative Medicine & Health, will be meeting in-person in Chicago, Illinois from February 28 - March 2, 2023. Over the course of 2 1/2 days, you'll find a program that is both practical and aspirational, with sessions and workshops delving into clinical, education and advocacy topics.

www.consortiummeeting.org

Clinical Resources Continued…

If there is an inflammatory presentation, the following can be utilized:

1. High dose Omega 3 fish oils (up to 4000mg of EPA/DHA daily)
2. Bioavailable curcumin (various doses depending on brand)
3. Resveratrol -500mg twice daily
4. Low Dose Naltrexone (0.5-4.5mg QHS).
5. In some cases, one may consider a short course of prednisone (10-25mg daily for 3 weeks, with a rapid taper to follow). ASA could also be considered.

For Mast-cell activation, in addition to a Low Histamine Diet, I often find a short course of H1 and H2 blockers will result in symptomatic improvement within 2-3 weeks, at which point one can consider adding further mast cell inhibitors:

1. Non-sedating H1 blocker- Bilastine (Blexten) or Rupatadine (Rupall) or Claritin/Reactine OTC.
2. Famotidine (H2 blocker)- 20mg daily
3. Quercetin- 500mg-1000mg twice daily (mast cell inhibitor)
4. Ketotifen 0.5-1mg BID
5. Sodium Chromoglycate (Nalcrom)- 200mg QID (more effective for GI symptoms as it is poorly absorbed orally)

Non-pharmaceutical/nutraceutical treatments also have a role to play in supporting patients with PASC. I have found the HRV biofeedback training (Heartmath) to be particularly effective in patients with neuropsychiatric symptoms, or signs of autonomic dysfunction. TENS (transcutaneous electrical nerve stimulation) with Auricular clips vagal nerve stimulation is also a very useful tool for autonomic retraining.

As with most of my patients dealing with any form of Chronic Fatiguing Illness, following an anti-inflammatory diet is a key component of stimulating recovery.

Studies suggest that eating a vegetable and fibre-rich diet can be protective against severe acute COVID, presumably due to its high quantity of pre-biotic fibres, ursolic acid, polyphenols, flavonoids and other immune-supporting compounds.

The Wahl's protocol (https://terrywahls.com/diet/) is a helpful resource for most patients looking to learn more about this type of diet.

Probiotic support should also be considered, as evidence continues to elucidate the effect of the SARs-COV-2 virus on the microbiome. Two specific bacteria have been implicated in the severity of acute covid. First, loss of Faecalibacterium prausnitzii (a key anti-inflammatory species) persists for weeks after hospitalization, and correlates with increased severity of systemic inflammation. Secondly, a study from the University of Massachusetts found that excessive growth of Enterococcus faecalis, in fecal or oral specimens, was the best predictor of severe disease in hospitalized patients.

The use of comprehensive stool testing is a valuable tool to gain insight into a patient's overall microbiome health and immune function. I often recommend these tests when there are symptoms of GI dysfunction in PASC patients.

There are still many open questions with regards to PASC: What is the best way to treat clotting dysfunction and thrombosis in PASC? What is the true incidence of PASC? Are there ways to prevent PASC, and does vaccination play a role in prevention? In addition, while there are a number of biomarkers involved in its pathogenesis (chemokines and cytokines including Il-6, interferon gamma, PTX-3), diagnostic panels are yet to be validated.

Here's hoping that answers to these questions and more will soon materialize, and that those suffering with post-infectious chronic fatigue syndromes will eventually have access to proven therapies in the near future.

By Dr. Elliot Jacobson

Clinical Resources Continued…

Functional Medicine's "5R" Approach To Healing The Gut

As I started exploring functional medicine, I learned that gastrointestinal health is a key domain of health care for which integrative and functional medicine can offer more than conventional medicine. When a patient's endoscopies are normal, they are usually discharged from a gastroenterologist's practice, often with a prescription for a proton pump inhibitor (PPI). But there is so much more we can do for gastrointestinal health than just prescribe PPIs. Functional medicine's "5R" approach enables you by providing more tools to optimize gastrointestinal function, even if some of the interventions don't (yet) meet the rigorous standards of evidence required to be included in guidelines. Functional medicine's "5R" approach to gut health refers to the following: **Remove, Replace, Reinoculate, Repair,** and **Rebalance.**

Remove

Remove means removing offending agents, typically from one's diet, that could be contributing to symptoms. The top 6 food offenders are 1) Dairy (lactose intolerance vs milk protein/casein intolerance); 2) Gluten, 3) Corn, 4) Soy, 5) Egg, 6) Nuts. Other possible specific culprits could include the allium vegetables such as garlic, onions, leeks, chives or shallots; or lectins, found in beans/legumes and grains, but can be inactivated or destroyed by rinsing, sprouting, fermenting, or high heat cooking. Using a patient centered approach, an elimination diet could remove ALL of the above at once or each category one at a time. Elimination should ideally last for at least 3 months, followed by a gradual re-introduction of each category every 1-2 weeks to test for re-emergence symptoms. Not all patients have food sensitivities, but a basic elimination diet followed by re-challenge is the best way to confirm if food sensitivities are present.

Replace

Replace means replacing the digestive juices we need to properly digest our food. This step is important for persons who have dyspepsia or indigestion within a few hours after eating.

1) **Acid** – Acid helps activate enzymes to digest our food, reduces the antigenicity of the foods and stimulates closure of the lower esophageal sphincter which reduces reflux in some individuals. Lack of stomach acid can lead to symptoms of indigestion 0-20min after eating, especially with protein-rich foods. Acid can be supplemented using a few shots of lemon juice or apple cider vinegar mixed 50/50 in water before meals, or with supplementation of Betaine HCl.
2) **Enzymes** – Insufficient digestive enzymes typically leads to fullness, bloating, or flatulence 2-4 hours after meals and can also lead to diarrhea and undigested food in the stool. You might even see a low pancreatic elastase on fecal testing. A lot of enzyme products exist on the market; choose one with activity units listed and consider using products without added betaine HCL so you can test the need for supplemental acid separately.
3) **Bile** – Pulsatile secretion of bile is most commonly lost in – you guessed it – patients who have had a cholecystectomy. Bile helps emulsify fat for digestion and insufficient bile may lead to indigestion or right upper quadrant pain 2-4h after meals, especially fatty meals. You can prescribe supplemental bile salts such as ox bile (animal source) or prescription ursodeoxycholic acid (UDCA); help patients synthesize bile with supplements such as taurine, choline, glycine, B vitamins and omega-3 fatty acids; or stimulate its synthesis and secretion with choleagogues like artichoke, beets, or bitter greens like dandelion.

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Clinical Resources Continued…

Reinoculate

Consider checking Canada's Probiotic Chart for evidence-based guidance on how to navigate the huge variety of probiotics used to *reinoculate* the microbiome. And remember to *feed* your internal microbiome "garden" with prebiotic fibre, which acts as the "fertilizer" it needs to grow and maintain itself. When selecting a probiotic, you might want to be aware that there are multiple classes and patients can react differently to each class:

1. Lactobacillus / Bifidobacterium – These single species or blended preparations are the most common ones you'll find on the market and make up the majority of the "pro-bacteria" component of the microbiome, with a special mention going to streptococcus thermophilus which will be added to some blends. Dose matters: consider striving for 25-50 billion CFU/day to get a therapeutic response.
2. Saccharomyces boulardii – The main "pro-yeast" probiotic actually has good research supporting its use in diarrheal-based conditions such as C difficile, IBS-D, ulcerative colitis and anti-biotic associated diarrhea. It may boost secretory IgA which helps bind food antigens and assist in treating leaky gut. Dosing is typically 5-10 billion CFU/day.
3. Bacillus spores – Spore-based probiotics pass easily through the upper digestive tract and become metabolically active in the small intestines where they secrete lactic acid which helps prevent the growth of pathogenic diarrhea. There has also been some research supporting use in IBS-D. Only a few spore-based probiotics exist in the Canadian market. Dosing is typically 0.5-2 billion CFU/day.

* In some cases, you may actually need to "remove" dysbiotic organisms in the microbiome first using antimicrobial herbals, rifaximin for small intestinal bacterial overgrowth or antifungals for candida overgrowth.

Repair

"Leaky gut" is a term all integrative practitioners should be familiar with, since it links digestive health with the health of other body systems. Leaky gut occurs with damage to gut enterocytes when the zonulin protein channels, gatekeepers of the intestinal wall, become loose or open and allow nonspecific passage of food antigens across the intestinal barrier into systemic circulation. Suspect leaky gut when food ingestion leads to systemic symptoms such as rashes, arthralgias/myalgias, fatigue, brain fog, or when there is a long list of food sensitivities on an IgG blood test. Leaky gut can be *repaired* over the course of a few months using the aforementioned R's – remove, replace, reinoculated as well as a few specific nutrients to assist the process, such as L-glutamine, an essential amino acid to nourish gut enterocytes; demulcents to coat the gut lining such as aloe (refined), licorice (deglycyrrhizated or "DGL"), marshmallow root and slippery elm; or just good old bone broth daily.

Rebalance

The last "R" refers to our nervous system's control over digestion and gastric motility. The vagus nerve is a key player in the rest & digest process. Give your vagus nerve a workout by practicing deep breathing exercises, singing, meditation, or heart rate variability training. Consider manual approaches to adhesions or local areas of spasm in patients who have suggestive symptoms or if they have undergone abdominal surgery. Above all, make sure to take time out of your busy day to *sit down* to eat, chewing food slowly and mindfully to stimulate saliva production, and ideally at a table and not your work desk!

That's it! Try thinking of the 5R approach the next time you see a patient with gastrointestinal complaints. You may find that implementing one or more of the R's above will take you further than you were before.

By, Dr. Adrienne Junek

Clinical Resources Continued…

Rapamycin, The Promise of an Effective Anti-Aging Medication.

By now, you might have heard about Rapamycin which has been accumulating a lot of buzz on anti-aging sites. Although it may not be ready for prime time, many clinicians and researchers are arguing that the time is now! In this article, I will briefly review Rapamycin's mechanism of action and discuss how it could be used clinically.

Rapamycin is an mTOR (mechanistic or mammalian target of Rapamycin) inhibitor isolated from the Rapa Nui bacterium *Streptomyces hygroscopicus found on Easter Island*. Rapamycin blocks the mTOR pathway, which mediates a broad spectrum of biological activities such as cell growth, differentiation, apoptosis, metabolism, autophagy, inflammation, and mRNA translation, reversing much of the hallmarks of aging cells. It is a well-established immune-modulating drug for use with transplant patients and has shown promising results on healthspan studies in laboratory animals.

There are two mTOR receptors: mTORC1 and mTORC2. Inhibition of mTORC2 results in potential adverse effects, mainly due to its immunosuppressive action. The adverse events commonly linked to rapamycin in organ transplantation include hyperglycemia, lipid disorders, anemia, thrombocytopenia, arthralgia, acute renal toxicity, and delayed wound healing.

By lowering the dose of Rapamycin and giving it intermittently, mTORC1 is preferentially blocked with little to no suppression of mTORC2, reducing the potential for adverse effects.

Many physicians, researchers and patients have elected to take off-label Rapamycin ahead of clinical trials due to the compelling evidence in animal models. Dr. Alan Green a 79 year old physician in Long Island has treated over one thousand patients over the last several years himself. He treats women with an average of 4 mgs weekly and men with 6 mgs. The most common adverse effects that he cited were aphthous ulcers and bacterial infections. However, he has found that for the most part his patients tolerate this regimen well.

In Canada, Rapamycin is available as Sirolimus in 1 mg tablets. Each tablet is $10.00.

An observational, non-blinded clinical trial is being conducted on patients who have been taking Rapamycin for its anti-aging effects. From the website: **University of Washington Rapamycin Study:** By collecting and disseminating data on several hundred people already taking low dose rapamycin for many months or years, this project will gather evidence for or against the use of rapamycin to improve health and prevent disease in people. At a minimum, this should largely resolve the current debate around safety of rapamycin use in this context.

The interest for Rapamycin is growing and as Integrative Physicians, many of us will be approached by interested patients in the coming months and years. I have included a couple of references below which may be helpful as you grapple with the question: Will you prescribe it for your patients?

Zhang Y, Zhang J, Wang S. The Role of Rapamycin in Healthspan Extension via the Delay of Organ Aging. Ageing Res Rev. 2021 Sep;70:101376. doi: 10.1016/j.arr.2021.101376. Epub 2021 Jun 2. PMID: 34089901.

Blagosklonny MV. Rapamycin for longevity: opinion article. Aging (Albany NY). 2019 Oct 4;11(19):8048-8067. doi: 10.18632/aging.102355. Epub 2019 Oct 4. PMID: 31586989; PMCID: PMC6814615.

- ***By Dr. Esther Konigsberg***

An invitation to members

Share something with us!

The Medical Interest Group for Complementary and Integrative Medicine has over 400 members. Some of you may feel passionate about one specific modality, whether it be nutrition, movement, mind-body practices, natural health products, manual therapy, or acupuncture. Perhaps you have an interest in a specific condition, or some aspect of functional medicine that you want to share with us. Some of you may have insights or personal experiences that have shaped your perspective on healthcare.

Whatever you want to contribute, we want to read it and share it with the Ontario Integrative MD community. We would love to receive submissions, whether they are in the form of a single paragraph or a full-length article, with references or without. Help us all to grow and learn together. Email submissions to: oma.cim.mig@gmail.com

Please Support Our Work- Pay Your Constituency Fees

Your CIM MIG Executive is focused on advocating for physicians who practice Complementary and Integrative Medicine. We are intent on gaining recognition for our field in Ontario and Canada. We need your support to help us continue our work and to help us create a safe regulatory environment for Ontario's doctors. We have made significant progress towards this goal, by engaging stakeholders, providing a consistent message about our members' aspirations and concerns, and drafting submissions that offer real solutions.

By paying your $50 Constituency Fee, you will help ensure that our work can continue. We are working to support you, but we cannot do it unless You support us. Follow the instructions below to pay your dues:

Step 1: Log into the OMA
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