Take 3 – Practical Practice Pointers© December 16, 2019 Edition

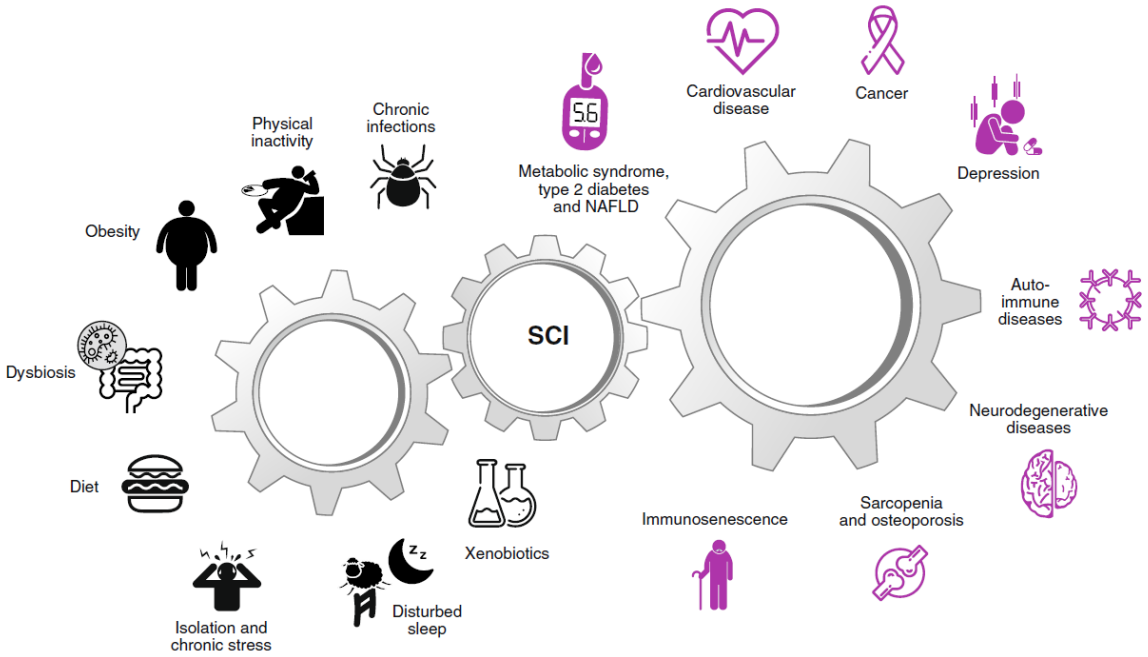
The Inflammation Edition:
Chronic Inflammation, Anti-Inflammatory Lifestyle/Diet

From the Literature and the Cutting Edge of Science

1) Systemic Chronic Inflammation (SCI) – A Brief Primer/Teaser

Inflammation is an evolutionarily conserved process characterized by the activation of immune and non-immune cells that protect the host from bacteria, viruses, toxins and infections by eliminating pathogens and promoting tissue repair and recovery. A normal inflammatory response is characterized by the temporally restricted upregulation of inflammatory activity that occurs when a threat is present and that resolves once the threat has passed. However, the presence of certain social, psychological, environmental and biological factors has been linked to the prevention of resolution of acute inflammation and, in turn, the promotion of a state of low-grade, non-infective (that is, 'sterile') systemic chronic inflammation (SCI) that is characterized by the activation of immune components that are often distinct from those engaged during an acute immune response.

One of the most important medical discoveries of the past two decades has been that the immune system and inflammatory processes are involved in not just a few select disorders, but a wide variety of mental and physical health problems that dominate present-day morbidity and mortality worldwide. Indeed, chronic inflammatory diseases have been recognized as the most significant cause of death in the world today, with more than 50% of all deaths being attributable to inflammation-related diseases such as ischemic heart disease, stroke, cancer, diabetes mellitus, chronic kidney disease, non-alcoholic fatty liver disease (NAFLD) and autoimmune and neurodegenerative conditions (See Picture).



Evidence is emerging that the risk of developing chronic inflammation can be traced back to early development, and its effects are now known to persist throughout the life span to affect adulthood health and risk of mortality.

Despite evidence linking SCI with disease risk and mortality, there are presently no standard biomarkers for indicating the presence of health-damaging chronic inflammation. To address limitations, some researchers have employed a multi-dimensional approach that involves assaying large numbers of inflammatory markers and then combining these markers into more robust indices representing heightened inflammatory activity. These types of integrative, multi-level approaches to characterizing SCI are promising, but this work is still in its infancy and much more research is needed to identify best practices for selecting and analyzing SCI-related biomarkers in order to yield the most useful and predictive information for quantifying age-related disease risk.

My Comment:
Though I have been aware of and have been peripherally following this area of research for some time, seeing what is known summarized in this particular paper was mind-bending for me. If terms such as xenobiotics, metainflammation, dysbiosis, and maternal exposome are new to you, this paper is a must-read. Even thought this is a "young science," there are many things that can be done to minimize and manage inflammation. This past week I attended a talk given by Jeri Lantz, MD and Beth Polk, MD titled "Food as Medicine" where they spoke of dietary interventions that have been shown to improve health, and Dr. Lantz shared how changes in her lifestyle, and in particular, her eating contributed to the remission of her rheumatoid arthritis. Wow …. See Pointer #3 for some additional information.

Reference:
Furman D, et al. Chronic Inflammation in the Etiology of Disease Across the Life Span. Nature Medicine. December 2019: 1822-1832. Abstract

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Lessons From the Blue Zones

2) What Might an Anti-Inflammatory Lifestyle Look Like

Life expectancy of an American born today averages 78.8 years. But this year, over 70,000 Americans have reached their 100th birthday. What are they doing that the average American isn't (or won't?). To answer the question, in 2004 journalist Dan Beuttner teamed up with National Geographic and a team of top longevity researchers to find pockets of people around the world with the highest life expectancy, or with the highest proportions of people who reach age 100, and to study them. They studied 5 regions, which they called "Blue Zones," including the Barbagia region of Sardinia; Ikaria, Greece; Nicoya Peninsula, Costa Rica; Seventh Day Adventists in the Loma Linda, CA region; Okinawa, Japan. In these Blue Zones areas, they found that people reach age 100 at rates 10 times greater than in the US in general.

The team found 9 common denominators among these populations:

- **Move Naturally –** They live in environments that constantly nudge them into moving without thinking about it. They grow gardens and don't have mechanical conveniences for house and yard work.

- **Purpose –** They know/live with a sense of purpose or "why I wake up in the morning."
- **Down Shift –** They have routines and rituals to regularly shed stress.
- **80% Rule –** They stop eating before they are full (80%). They also eat their smallest meal in the late afternoon or early evening and then they don't eat any more.
- **Plant Slant –** Beans, including fava, black, soy and lentils, are the cornerstone of most centenarian diets. Meat—mostly pork—is eaten on average only five times per month. Serving sizes are 3-4 oz., about the size of deck or cards.
- **Wine @ 5 –** Most (except Adventists) drink alcohol moderately and regularly.
- **Belong –** Most of centenarians interviewed belonged to some faith-based community. Religion/denomination doesn't seem to matter.
- **Loved Ones First –** Successful centenarians put their families first. This means keeping aging parents and grandparents nearby or in the home, committing to a life partner, and investing in children with time and love.
- **Right Tribe –** They choose/were born into groups that support healthy behaviors.

My Comment:
Thought genes certainly play a role in longevity, most people have the capacity to live much longer and healthier lives (without chronic disease) than they likely will. Making the practices listed above a "way of life" greatly increases the chances of doing so.

How are you faring on the "Power 9?" Why not take some time to reflect as to where you might make some changes to do better? The new year AND decade offer a wonderful opportunity to do so. I have made some significant changes over the past year with both the "80% rule" and "down shift" (for me, through meditation and doing more exercise in the early evening) and the positive changes have been notable.

Reference:
Blue Zones Power 9®: Link with "Pyramid"

More Lessons From the Blue Zones

3) What Might an Anti-Inflammatory Diet Look Like?

As part of the work of the "Blue Zones" team, they distilled more than 150 dietary surveys of the world's longest-lived people to look for patterns. Based on this analysis, these 10 simple guidelines reflect how the world's longest-lived people ate for most of their lives. The focus is not on losing weight. Rather, weight loss will become the natural byproduct of a healthy approach to eating, which, unlike most "diets," is designed to be a sustainable way of life. Here's what they found:

- 95/5 Rule - Eat mostly plants: 90-95 percent of intake should be vegetables, grains, greens, fruits and beans. Can include a cup (cooked) of whole grains daily.
- Retreat from Meat - Though some consumed meat, eating meat is not recommended as a significant portion of the diet if at all.
- Take or Leave Fish – Many "Blue Zones" diets included fish up to three times weekly. But, modern-day fish has become so contaminated with pesticides and other chemicals that it is not recommended unless the source is known.

- Diminish Dairy – Limit or avoid. If cheese is used, try small portions of sheep (pecorino) or goat (feta) cheese to flavor foods. If you eat eggs, limit to 3/week.
- Daily Beans - Eat a cup of beans daily. All beans count, including tofu. If you buy canned beans, avoid added salt, sugar and chemicals.
- Slash Sugar - Consume only 28 grams (7 teaspoons) of added sugar daily. Avoid foods with more than 8 grams of sugar. Make honey your go-to sweetener.
- Primarily Drink Water - Six glasses daily. Feel free to drink unsweetened teas and coffee. Wine in moderation. Avoid all sugar-sweetened and diet sodas.
- Snack on Nuts - Eat a handful of nuts daily: almonds, pistachios, walnuts, hazelnuts, sunflower seeds, pumpkin seeds, and Brazil nuts.
- Limit Bread - Eat only 100 percent whole grain breads or authentic sourdough from live cultures. Limit bread to two slices daily. Choose whole grain corn tortillas over flour tortillas. Avoid white breads and wraps.
- Eat Whole Foods - Try to eat only whole foods or foods processed with fewer than five ingredients. If it's manufactured in a plant, avoid it.

My Comment:
Remember, this is not about weight loss, but about healthy eating. Anyone who is overweight/obese and follows the above recommendations will likely "right size" naturally. Add the "80% rule" from Pointer 2 (stop eating before you are full) and you have a very sound approach to eating. If we could get patients to eliminate processed food (including "crinkly bags and bread), drink mostly water (no sugar or artificial sweeteners), and limit portion size, the public health impact would be stunning.

I still find my "Pollanian approach" (after writer Michael Pollan's advice to "eat food, mostly plants, not too much") to be quite effective when followed, and it is easy for most people to remember. In next week's Take 3, I'll highlight some of the research regarding potential health benefits of "fasting," as I've recently had many questions about this from both patients and colleagues.

Reference:
Blue Zone Food Guidelines: Link

Feel free to forward Take 3 to your colleagues. Glad to add them to the distribution list.

Mark

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