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Give Your Patients a Nutritional Adjustment

By David Seaman, DC, MS, DABCN

The Diet-Induced Pro-Inflammatory State -

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In my first article on the pro-inflammatory state ("Vitamin and Mineral Deficiencies = Radiation Damage?" *Dynamic Chiropractic*, September 1, 2002 www.chiroweb.com/archives/20/18/25.html), I focused on fatty acids and their relationship to the pro-inflammatory state. Recall that grains contain an excessive amount of pro-inflammatory n6 fatty acids, and are essentially devoid of the anti-inflammatory n3 fatty acids. Unfortunately, there are additional problems with grains, flours, and related products (breads, pastas, cereals, muffins, desserts, and the like). For example, grains increase tissue acidity,¹⁻⁴ which is a significant problem.

The human body possesses what is referred to as a "fixed acid production." Numerous metabolic reactions produce acids that must be buffered. We derive alkaline buffers from fruits and vegetables, and acidic end products from meats and grains.¹⁻³

It is known that pain is augmented by tissue acidity, and that our musculoskeletal structures, particularly our bones and muscles, degenerate due to tissue acidity. Clearly, this subject has important implications for our patient population.

Spinal Pain and Inflammation

Most patients enter a chiropractic office with pain and inflammation. Although DCs think structurally, we must realize that it is the chemical mediators of inflammation that activate nociceptors, which result in pain and drive patients to our offices.

For many years it has been known that an acidic pH works synergistically with the chemical mediators of inflammation to activate and sensitize tissue nociceptors.⁵ Evidence existed regarding low back pain and pH at least as early as the 1960s. At the time of surgery, Nachemson discovered that the pH of lumbar discs ranged from 5.7 to 7.5. The lower the pH, the greater the pain, disc degeneration, and fibrous tissue deposition.⁶

Hambly and Mooney state that "sick" discs, as reflected by pain on discography, have consistently demonstrated an acidic pH.⁷ Additionally, an acidic pH will reduce proteoglycan synthesis.⁸

An acidic pH is also known to reduce bone mineral density and promote osteoporosis.^{9,10} Researchers also believe that an acidic environment will promote the muscle wasting that occurs with aging.^{11,12}

Clearly, an acidic biochemical environment is capable of promoting inflammation; pain; histopathology; bone pathology; and myopathology. When this series of events occurs in the spine, we call it subluxation.

Causes of Acid-Induced Subluxation

Researchers who study pH explain that with advancing age we develop a low-grade metabolic acidosis. Kidney function normally declines as we age, such that we develop renal insufficiency and a compromised acid-base regulatory capacity.¹²

Presumably, if we take care of ourselves and adopt a healthy lifestyle, we might be able to delay the inevitable decline in body pH that will occur in all of us. In fact, we can profoundly influence body pH by eating more fruits and vegetables and by not smoking. As mentioned above, it has been known for many years that fruits and vegetables are alkaline, while grains and meat are acidic. Additionally, it is known that smoking lowers pH,⁷ so why not quit if you are a smoker. Drinking soda can also provide an unnecessary acid load, and this should be avoided.

New Study on pH and Back Pain

As described above, increased tissue acidity can cause inflammation; nociception; pain; bone loss; and muscle wasting. Accordingly, researchers recently hypothesized that a latent chronic acidosis might contribute to the symptoms of back pain, and sought to see if supplementation with alkaline minerals might reduce overacidity and pain.¹³ For four weeks, 82 patients with chronic low back pain took a supplement containing calcium; potassium; sodium; magnesium as citrates; and a number of trace elements. Seventy-six patients reported a reduction in pain, while blood buffering capacity and venous blood pH both increased.

As this was an open trial, a more rigorous placebo-controlled trial is needed. Certainly the research departments at one of our chiropractic colleges could perform such a trial, which may help to elucidate the interactions between mechanical and chemical causes of low back pain.

Summary

Latent chronic tissue acidity is thought to be a cause of skeletal degeneration and pain. While the specific details have yet to be elucidated, there is no reason to wait before implementing corrective nutritional measures. Eat more vegetables and fruits and minimize the consumption of grains and sodas, and add a multiple vitamin, supplemental minerals, and an omega-3 fatty acid supplement. These are simple modifications anyone can make, which may have a profound health outcome for your patients. Don't wait any longer, give your patients a nutritional adjustment.

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