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Let's focus on your senior patients, more specifically, those patients who have been on acid blockers or those who have been chronically ill. On previous Tuesday Minutes we've heard about HCL deficiencies and how to fix them. But one of the things that goes hand in hand with HCL deficiencies are low mineral levels and B12 deficiencies. We've also discussed that as we age, the incidence of HCL deficiency increases because it takes so much cellular energy to make HCL. So B12 deficiencies should be a big consideration for your elderly clients.

Here's an interesting study. On a college campus, baseline levels of HCL were taken from "healthy" college student; but before the experimental part of the trial could begin, the flu broke out on campus. This adds a twist to any HCL experiments as sickness will diminish HCL produc-



tion. Well, in an effort to salvage their time and data the researchers decided to see how long it would take for the subjects to return to their baseline levels of HCL after the flu abated. Interestingly enough it took up to 6 months for 2 of the subjects.

This should serve as a reminder for all of us with chronically ill patients who are battling trauma or disease, there's a good chance that there's a digestive component as part of the clinical picture. For

anyone who is low in HCL or has been on acid blocking medication for a prolonged period of time, the chances are pretty good that they're low in B12.

B12 works with folic acid in the synthesis of the building blocks for DNA and RNA. B12 is essential for the integrity of the nervous system as well as energy production. To mention all the conditions that a B12 deficiency is associated with would take quite awhile, so I'll focus on some of the neurological

effects of B12 deficiencies and I'll give you some tighter lab ranges to help you identify deficiencies when looking at a CBC.

B12 deficiency affects the peripheral nerves and in later stages the spinal cord. Patients may experience tingling and numbness in the extremities, loss of vibratory and position sensation, abnormalities of gait, age related hearing loss, muscle spasticity, irritability, depression, loss of concentration, memory loss and dementia. Doesn't this sound like many of your elderly patients?

Remember that plant sources of B12 do not have the same biological activity for humans and as a result most vegetarians are also low in B12 and should supplement.

There are 2 different indicators I look at to evaluate B12/folate status. If the mean corpuscular volume or MCV is above 89.9, that's a good indication there's a deficiency. The other indicator I look at is the mean corpuscular hemoglobin. If the value is above 31.9, it also indicates a B12/folate need. If either one of these indicators is high, suspect a deficiency; but if they are BOTH high, you can be confident of a B12 or folic acid deficiency.

If we detect a need for B12 and folic acid via elevated MCV and MCH, there's a strong chance that homocysteine is elevated as well and should be assumed to be high unless proven otherwise by testing. As you know, homocysteine is a major indicator of heart disease as well as other inflammatory conditions. Fortunately, the remedy for elevated homocysteine, elevated MCV and MCH is the same, namely B12, folic acid and B6.

My favorite product is a cherry flavored lozenge called B12-2000 lozenge. Each B12-2000 lozenge contains 2,000 mcg of B12, 800 mcg of folate (the natural form of folic acid) and 2 mg of B6 (in the p-5-p form).

B12 is not always well absorbed via the stomach and as such should be supplemented with a form that will yield good oral absorption. This tablet is so tasty that the tendency is to chew it like candy. The key to this therapy, however, is to allow the tablet to dissolve slowly in the mouth. Research shows that for most people, oral supplementation can be effective, especially if you are already supplementing with HCL.

There are some people that may need B12 injections, so following up with laboratory testing is important. There are many forms of B12 lozenges on the market. The problem with oral methylated forms is that they chelate heavy metals that may be used as dental fillings, you don't want that! For this reason Biotics uses a hydroxo-cobalamin form of B12. Expect to start seeing clinical changes in 30 days and lab tests should reflect changes in about 90 days.

Be sure to remember B12 when treating any elderly patient, those on acid blockers or anyone who's had a chronic health challenge that may rob them of their HCL capacity. I love the saying "in the end, it's not the years in your life that count. It's the life in your years." Enhancing the quality of life for your senior patients is a great gift.

Thanks for reading this week's Tuesday Minute edition. I'll see you next Tuesday.