THE TUESDAY MINUTE

THIS WEEK'S TOPIC

Increasing Cellular Oxygen

" Seeing the relationship of hypercoagulation, hypoxia and acidic pH will increase your therapeutic effectiveness dramatically."

Let's connect a few dots using topics which at first may seem unrelated to your daily practice. The topics are hypercoagulation, hypoxia and pH. Seeing the relationship of these topics will increase your therapeutic effectiveness dramatically.

Hypercoagulation is a concept that might be a little foreign to you. Hypercoagulation is a thickened blood state which means that the body is producing fibrin strands faster than it can break them down. When this happens, the fibrin may get deposited on the capillary walls. This impedes the delivery of oxygen and nutrients from the blood into the tissues and also impedes cellular by-products from the tissues out to the bloodstream.

If hypercoagulation is sustained for a prolonged period of time, the tissues of the body will gradually become hypoxic which means they are lacking in oxygen and becoming malnourished. Also, hypercoagulation predisposes a person to clot formation in the form of strokes or heart attacks if atherosclerosis is already present.

Let's put that on pause for a second and ask a question. Why is the body not breaking down the fibrin as fast as it should? We could supplement with proteolytic enzymes like Intenzyme Forte or other enzymes, but our bodies make enzymes that "should" digest or break down the fibrin as needed.

You may recall an earlier discussion regarding pH; but one point needs to be re-emphasized, hormones and enzymes work in a very specific pH. If the pH is not in its physiological range, enzymes may be present but they are unable to do their job.

Let me give you another reason for hypoxia other than hypercoagulation. Hemoglobin in the blood carries oxygen from the lungs to the tissues. Hemoglobin then releases the oxygen to burn nutrients to provide energy to

power the functions of the cell. It then collects the by-product, carbon dioxide, to bring it back to the lungs to be expelled. However if the pH in blood vessels is in a state of relative acidity, the hemoglobin molecule can't effectively release the oxygen to the tissue even though the tissue is oxygen deprived. I use the term "relative acidity" because a true acidic condition would be below 7.0 which most likely would cause someone to go into a coma.

What happens if the cell does not get the appropriate amount of oxygen? The cells are forced to function anaerobically. In the short term that's not a big deal. Athletes and people who are temporary exposed to higher altitudes experience short periods of hypoxia. But when that condition becomes dominant, cells become compromised. What thrives in an anaerobic environment? That's right… fungal forms, bacteria, viruses. Why? Because the cell can't maintain proper homeostasis in an oxygen depleted energy reduced state.

Hypoxia and an acidic tissue environment can cause pain, inflammation, lack of energy, and the decline or loss of organ functions. In another Tuesday Minute we saw how pH is a function of voltage. If red blood cells have the correct charge, they repel each other. If their charge is altered, red blood cells tend to clump or aggregate.

I realize I am skipping a lot of physiology steps in an attempt to be brief. But, the point I am trying to convey is that pH is tightly regulated. I'm focusing on pH because Americans are addicted to acid forming foods and lifestyles. If we consume foods that promote an acidic chemistry, sooner or later the body's ability to buffer excess acids becomes compromised and dysfunction at the cellular level is the result.

Let's bring this full circle and connect the dots clinically. pH can affect hypercoagulation which affects tissue oxygen levels. pH affects the enzymes of the body, some of which can help break down fibrin which can reduce hypercoagulation. But the most exciting concept for me is that "pH affects the hemoglobin molecules ability to release oxygen at the cellular level."

Can you start to see why some of the more intense strict diets, what we might call "fad diets," can sometimes turn around chronic health conditions? It's because they increase the patient's diet in plants which are natural buffers. Let's not forget that as the amount of fruits and vegetables increase so does the amount of natural antioxidants from those fruits and vegetables.

Below on this page, look for an additional discussion and suggestions on how to monitor your patient's pH.

To get the most out of the therapies you employ, whatever they may be, increase the amount of buffers your patient ingests. Fruits but especially vegetables are natural ways to neutralize pH. One physician at a recent conference I attended suggested that patients eat 10 - 14 servings of vegetables a day. And even at that level, optimal pH changes may take 6 months to attain.

I think this is one of the most important concepts for us to teach our patients. To me, conversations like this are at the core of "real wellness," teaching people to prevent disease by optimizing lifestyle.

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