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Massage TODAY

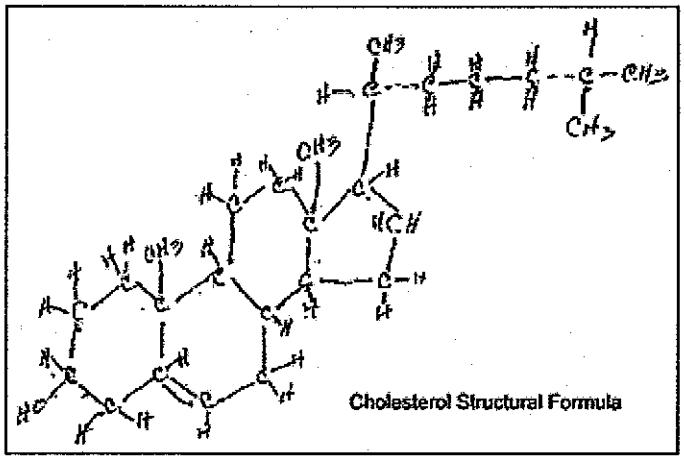
Cholesterol: Friend or Foe?

By John E. Upledger, DO, OMM

As a physician who is passionate about all aspects of the human body, I frequently get questions about situations outside of the realm of CranioSacral Therapy. One such topic that has come up a lot over the last few years is that of cholesterol. With all the talk about the evils of cholesterol, you might think it is a dangerous substance that should be avoided at all costs. But is it really as terrible as it seems? Let's take a look.

Cholesterol is what is called a sterol molecule, which is any of a group of solid, mostly unsaturated polycyclic alcohol molecules. There is one hydroxyl (OH) group on carbon 3 that makes cholesterol an alcohol. If you aren't savvy in chemistry, don't worry; I'll make it as simple as I can.

Cholesterol is abundant in a wide variety of animal tissues, including human tissue. It is especially abundant in brain, spinal cord and peripheral nervous tissues. It is a generous constituent of the myelin sheathes that serve as insulation for all of the white nervous tissues. Without adequate cholesterol, the myelin disintegrates and the conduction of impulses in all nerve tissues, including the brain, is impaired. So when cholesterol is not present in adequate amounts, brain function is proportionately compromised.



Cholesterol Structural Formula

In addition to cholesterol's contribution to myelin, it has more recently been discovered that cholesterol molecules are essential

#2004.06

for nerve cells to communicate with each other. It seems that for a message to be successfully sent from a presynaptic neuronal axon to the receiving neuron, on the postsynaptic side of the gap between the two neurons (the gap is the synapse), there must be an abundance of cholesterol molecules on the presynaptic side of the gap (synapse). We don't yet know precisely how this works, but we do know that cholesterol is necessary for the nerve impulse to be transmitted from one neuron to the next.

We also know that cholesterol is the primary molecule from which all of the corticosteroid hormones of the adrenal glands are derived. Without these adrenal corticosteroid hormones, we would live in pain. These hormones are secreted by the adrenal glands. They mitigate the inflammatory responses that are induced and continually produced under any circumstances that stimulate an inflammatory response by the immune system. Without the proper level of corticosteroid hormone being produced by the cortices of the adrenal glands, we probably wouldn't survive attacks of various bacteria, viruses, fungi, molds, allergies, and more. We would simply inflame our lives away.

Another arena in which we would get a tremendous amount of pain is in the area of muscle, tendons, ligaments, fascia, bone wear and tear, etc. The corticosteroids reduce the inflammatory responses in those tissues and bones tremendously. I could go on and on with what inherently produced corticosteroids do for our creature comforts. Yet another arena that requires cholesterol as a primary substance is that of the sex hormones. Cholesterol is the essential basic substance from which our bodies manufacture both male and female sex hormones, i.e., testosterone and the various estrogen- and progesterone-related hormones. Where would we be without cholesterol? We would be asexual and childless. The aforementioned are only some of the things that we know require cholesterol.

Here's one other thing we know for sure about cholesterol: In our skin, in the presence of sunshine, cholesterol is converted to vitamin D, which is necessary for health. Lack of vitamin D in children results in rickets, in which the bones are very soft and easily become misshapen.

In the category of cholesterol functions, there is an argument that I believe began in the 1950s. From 1960 through 1963, I was attending osteopathic medical school and concurrently participating in a biochemistry teaching and research fellowship. I was selected as the award recipient by the biochemistry department chairman, Dr. Stacy F. Howell, who had great experience in the field of biochemistry, and was due to retire at the same time I graduated. Dr. Howell's PhD was from Cornell University where he helped establish proof that enzymes were proteins. His mentor, Dr. J. Sumner, received a Nobel Prize for

establishing that same proof.

Dr. Howell and I spent many hours together, and he mentored me several nights. I recall that his friend, Ancel Keyes, PhD, from the University of Minnesota, discovered that there was abundant cholesterol in the plaques that form in arteries. These plaques serve to partially and sometimes completely obstruct the flow of blood through the involved arteries. The medical community immediately took this information from Ancel Keyes and decided that cholesterol was the demon that caused the plaques because when they formed in the arteries to the heart (coronary arteries), a "heart attack" (myocardial infarction) was the result. So it was simple: Cholesterol in the blood was the cause of ischemic (not enough blood) heart disease.

Within a year following his discovery, Ancel Keyes tried to reason with the "powers that be" that simply because cholesterol was present in the plaques did not mean it was the cause of the plaques. It struck Dr. Howell that the medical community was eager to find a cause for ischemic heart disease, a.k.a. coronary artery disease, and it could be treated by lowering blood cholesterol. The simplicity of the concept overcame scientific scrutiny. I listened to Dr. Howell and respected his wisdom; I also felt that Dr. Keyes should be listened to very seriously.

A few years later, a heart surgeon from Texas named Michael DeBakey hypothesized that the artery became infected by a bacteria, virus, etc., first, and that part of the body's defense might be to isolate the infected and inflamed area in the artery so that it would not spread throughout the arterial system and become lethal. Dr. DeBakey suggested that the cholesterol deposits might be part of the body's attempt to isolate the inflamed/infected part of the artery before it spread. Shortly after hearing Dr. DeBakey's ideas, I went to Mexico City to study with Dr. Demetrio Sodi-Pallares, a well-known cardiologist. Dr. Sodi agreed with Dr. DeBakey. I performed several autopsies with Dr. Sodi while I was there, and he showed me some instances in which plaque was not present, and the inflammatory response to a spreading infection in the coronary arteries was the cause of death.

With this information, I offer the idea that cholesterol is not the demon that it is touted to be. First, I believe that Mother Nature would not have the liver manufacturing cholesterol in response to physiological need if the cholesterol molecule were indeed such a menace to our well-being, and it would not have the intestines absorbing cholesterol from our food intake. If cholesterol were that bad for us, it would mean that Mother Nature wants us dead, and I just cannot accept that idea.

When I was in general practice from 1964 through 1975, a normal

blood cholesterol level was 250 to 300 mg% (mg% being the number of milligrams of cholesterol per 100 milliliters or cubic centimeters of blood). Now doctors want it to be at 125mg% or less. I believe that cholesterol is an effective part of the immune system's armament against disease invasions. When we starve our bodies for cholesterol, we get sick and taken over by depressive moods more often. Frankly, I believe that the statin medications that are used to lower cholesterol production by the liver are far more toxic than blood cholesterol of 300mg%. As far as "good" and "bad" cholesterols are concerned, I believe that Mother Nature can deal with that better than medicine can.

Editor's note: This article has been written for informational purposes only and is not a substitute for personal medical advice. Please consult your physician with any questions or concerns you may have about your health.

John Upledger, DO, OMM
Palm Beach Gardens, Florida
www.upledger.com

Massage Today - June, 2004, Volume 04, Issue 06

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