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The Four Bio-markers Will Reveal Time Of Death

Four bio-markers common among the dead. (Part 2 of 2)

Glycoscience Lesson #13

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It is our intent to conduct Pilot Surveys in the future using these four bio-markers of death; but, let's not wait. Learn more about these bio-markers today.

The four harbingers of death can be readily detected in a blood sample, and are even predictive of death when seen in apparently healthy people. They are: (1) alpha-1-acid glycoprotein; (2) albumin; (3) very low-density lipoprotein (VLDL) particle size; and (4) citrate.

Alpha-1-acid glycoprotein (AGP) increases the response to tissue injury, inflammation, and infection. AGP is very complex and represents 45% sugar attached in the form of five or six highly sialylated complex-type-N-linked glycans. The biological functions of AGP are not yet understood; however, we know it has immune modulating effects. AGP is known to modify platelet adhesiveness. During acute inflammation AGP levels increase in the body and has been confused as a contributing factor for the inflammation when, in fact, is increased to address the inflammation for immunoregulatory functions. Normal concentrations of human serum alpha-1-acid glycoprotein are determined to be 50-140 mg/dl. Increased levels may be due to trauma, inflammation, infection, or tumor recurrence. Depressed levels may be due to kidney damage, pregnancy, estrogen therapy, liver disease, or genetic predispositions.

Albumin is a protein made by the liver. A serum albumin test measures the amount of this protein in the clear liquid portion of the blood. Insulin, steroids, and hormone therapy can increase albumin levels include. The test can help determine why the body is not absorbing enough protein. Albumin helps move many small molecules through the blood. It plays an important role in keeping the fluid from the blood from leaking out into the tissues. The normal range is determined to be 3.4 - 5.4 grams per deciliter (g/dL). Lower-than-normal levels of serum albumin may be a sign of kidney or liver disease. Decreased albumin levels may occur because the body does not get or absorb enough nutrients. Increased blood albumin level may be due to dehydration or too much protein in the diet.

Lipoprotein(a) (Lp(a)) is a cholesterol linked to cardiovascular risks. We have heard of HDL (the good

cholesterol), LDL (the lethal cholesterol), Lp(a) is the really bad cholesterol. Lipoprotein is made from LDL cholesterol bound to the protein apolipoprotein(a). New research presents strong evidence identifying Lp(a) as an independent risk factor for heart attack. The study appeared in the June 10, 2009 issue of JAMA (Journal of the American Medical Association).

Instead of lowering lipoprotein(a) levels with drugs, the researchers assessed genetic variations in the gene that controls Lp(a) levels in the blood of close to 45,000 participants in three large long-term, follow-up studies conducted in Denmark. They found that heart attack risk increased as lipoprotein(a) levels rose, based upon the underlying genetic code. The association was seen in all three studies. However, the new study does little to define how to use Lp(a) measurements. Research remains quite limited.

Lp(a) levels can vary greatly from person to person apparently determined by genetic variability. Medical scientist know little about Lp(a) and question if statin drugs would have an effect. It is known that high levels of vitamin B niacin is beneficial.

citrate is a salt of citric acid and serves as an anticoagulant because it binds calcium ions and may extend red cell survival by providing adenine needed for the maintenance of red cell ATP levels.

The intended Pilot Surveys will evaluate the participants' levels of **Alpha-1-acid glycoprotein (AGP)**, **Albumin**, **Lipoprotein(a)** (Lp(a)), and **citrate** along with a general evaluation of his or her health. Our brain trust/think tank will determine protocol(s) and over a few months time know if the bio-markers have been moved, if the quality of life has been improved, and if projection of life is extended.

Source and References:

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