MINERALS IN HEALTH

By
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One of the most frequently asked questions is "What do the minerals do? How do they function and how can you tell what each one accomplishes?" A study of the enzyme action shows that most enzymes, with the exception of a few like pepsin and trypsin, are influenced by mineral elements. On page 17 of my book "Metabolic Aspects of Health" there is a table giving a list of enzymes known to be influenced by the mineral elements. Five types of relationships are shown. While there are some 200 trace element-containing enzyme systems known (or systems influenced by trace elements), very little is known about some of these. It is sufficent to point out the complicated relationship of these trace elements with the various enzymes. It is especially important to point out that the enzymes are the tools of the biological function and they cannot function without the trace elements.

When life was confined to the sea, these trace elements were available all the time and in adequate amount. It was in the sea that evolution developed over a time dimension of several billion years. During this time oxygen was released into the atmosphere and the cellular enzymes developed the Krebs Cycle of oxidation reduction--releasing 15 times more energy from the glucose molecule than was produced by the fermentation method. With this remarkable amount of free energy available, the development and differentiation of organs took place.

In time, life left the sea and took up a terresterial habit. It now became necessary to conserve water and the trace elements within the system. From that time on the precariousness of life was dependent upon an adequate supply of these trace elements. Not only was an

adquate supply of these elements necessary, but good health depended upon their ratios also.

All of matter is in a dynamic state---constantly functioning and continuously being replaced. There is always a turn-over of proteins, fats and carbohydrates, as well as a slow replacement of structures such as bone, taking place in the living organism. Enzymes run all the systems, and they are being broken down and being replaced by new ones all the time---even before they are worn out. Thus there is a continual need for raw materials such as amino acids and trace elements from which new enzymes can be built. There is always the question of where to get the most adequate supply of these trace elements and amino acids.

One of the best sources of supply for the amino acids is autolyzed yeast extract. This is a pre-digested nutritional yeast. The fact that it is pre-digested makes it available to the organism when its own digestive mechanism is not functioning well. Consequently, it is an essential food in both good health and states of debilitation.

One source of mineral elements is the precipitated silt from sea water that has accumulated in large basins in various parts of the world. This water contains all of the elements that were available to the organisms during the stages of evolution and so exists in exactly the same concentration in which evolution took place over the long stretches of time in the sea. It is this type of silt that has been fed by mountain streams to the three areas of the world that have great health and longevity--the Hunza Valley in Kashmir--the Andean Valley of Vilcabamba in Equador--and Abkhazia in Russia on the border of the Black Sea.

The farther life removes itself from the sea, the more precarious the supply of mineral elements becomes. In more recent times the removal of each trace of dirt from our packaged vegetables, as well as the minerals as a hardness factor from our drinking water, has practically eliminated the trace elements from our diet. We recognize this depletion in our diet of the vitamins and minerals and have an "enrichment" program in which we put back certain of these into the wheat flour from which we make our bread. This is a step in the right direction, but wholely inadequate, and so we need a better supply of these trace elements. What could be a better approximation than the silt from the ancient sea beds from which evolution got its start?

As I pointed out on page 295 of my book, I would like to recommend to you a basic course of supplements that you could give to your patients: Mineral 72 two tablets three times a day after meals. Kelp for iodine one tablet three times a day, and vitamin C 1,000 milligram tablet in a time-release form three times a day. This general support would lay a foundation of metabolic excellence on which you could supplement other vitamins, minerals and hormones as they were indicated, especially thyroid and estrogen. It is important to remember that this silted trace element material does not replace the materials in ion form: they supplement each other.

Dr. Albert Szent Gyorgyi received the Nobel Prize for his discovery of Vitamin C in 1937. This was ten years after he had discovered the active chemical material in vegetables and citrus, and which was present only when they were in a state of freshness. He called it "hexuronic acid", but was not aware that it was Vitamin C or the anti-scorbutic factor.

In 1932 two American scientists from Pittsburgh--Waugh and King--had extracted the same substance from citrus and knew that they had discovered Vitamin C. Later they informed Szent Gyorgyi that the two substances were identical.

Haworth established the structural formula of hexuronic acid in 1933. Reichstein made hexuronic acid synthetically the same year and immediately Haworth and Szent Gyorgyi changed the name of hexuronic acid to ascorbic acid. In 1934 ascorbic acid as Vitamin C was made available to the medical profession for clinical trial.

In his lecture at the time he received the Nobel Prize, Szent Gyorgyi made the following statement: "Vitamins, if properly understood and applied, will help reduce human suffering to an extent which the most fantastic minds would fail to imagine". My efforts to apply this therapy to metabolic disease over the past 40 years has met with a magnificent response and satisfaction from the patients I have treated, and with an overwhelming demand from new patients, which I am unable to meet.

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