

High or low blood sugar

According to Dr. E. Cheraskin of the University of Alabama, evidence has been accumulating for twenty-five years that the state of one's vitamin C balance may depend on how much and what kind of carbohydrate one is eating. Guinea pigs, like human beings, cannot manufacture their own vitamin C, so they are used most frequently in making laboratory observations on vitamin C. As the animals are progressively deprived of more and more vitamin C, their "tolerance" to carbohydrate declines. That is, the ones which are getting very little of the vitamin are approaching a state of diabetes. And as the level of vitamin C goes down, the susceptibility to diabetes increases, in a direct relationship.

In an article in *The International Journal of Vitamin Research*, volume 40, 1970, Dr. Cheraskin and his colleague, Dr. W. M. Ringsdorf, tell us that more recent investigations seem to show that lack of vitamin C can result, in guinea pigs, in a trend toward either diabetes or low blood sugar, which is the opposite condition.

It also appears that the rather general tendency toward diabetes or low blood sugar which occurs with advancing age may be closely related to one's vitamin C status. In other words, perhaps all the disorders of blood sugar regulation from which many older folks suffer may be partly dependent upon the amount of vitamin C they are getting at meals or in supplements. When doctors test for diabetes or low blood sugar, they give the patient a big dose of pure sugar to see how well the body's mechanism can deal with it. Those who are best able to handle this big overload without difficulty are always those whose blood levels of vitamin C are highest.

The two Alabama physicians de-

cided to conduct a trial on student volunteers to see what would be the effect on their vitamin C status of a diet in which all refined carbohydrates were kept to a bare minimum.

Forty students volunteered. They were tested for vitamin C levels. Then they were told to reduce as much as possible their intake of sugar and highly processed starches (baked goods, desserts, commercial cereals, breads, etc.) for five days. At the end of the week their vitamin C status was checked again.

There was improvement in vitamin C status among those who reduced their intake of refined carbohydrates. Those who formerly had very high levels of vitamin C in their tissues showed decreases. Those who had low levels showed increases. And those who had exactly the right amount of vitamin C did not change, even when their diets were greatly improved by omitting many refined carbohydrates.

This seems to show that vitamin C is somehow concerned with the whole problem of sugar levels in the blood, a problem that is becoming more acute every year as our incidence of diabetes rises and the prevalence of its opposite, low blood sugar, is unknown, but undoubtedly very great. It is well known that diabetes is related to circulatory disorders. The diabetic is much more likely to suffer a heart attack, or have serious circulatory problems in feet, legs, and eyes.

Dr. Cheraskin does not theorize on this, but it seems apparent that all the conditions may arise from the same cause — an unbalanced diet which includes far too much of the refined carbohydrates which would almost automatically mean that it would be low in vitamin C. We say that because, if you eat enough fresh fruits and vegetables to get your quota of vitamin C, you just won't have the desire or the space to cram in lots of desserts, soft drinks and candy. On the other hand, once you accustom your taste buds to the concentrated sugar of the high carbohydrate diet,

you tend to shun the healthful fruits and vegetables which are your best sources of vitamin C.

It is well known that the B vitamins are closely related to the way the body uses starches and sugars. These vitamins are bound to be low in diets which include lots of refined carbohydrates, for they have been removed in the processing of these foods. So if you eat this kind of diet, it now appears that you may be causing damage in two ways: lack of vitamin C as well as the B vitamins.

It also appears that, as you grow older, one of the best guarantees you can have of a healthy, well-regulated blood sugar level is to make sure you are getting very little if any of the damaging refined and processed carbohydrates, and plenty of those highly beneficial vitamins—the B complex and vitamin C.