



Prevention

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contents

A New Theory of Diet and Coronary Thrombosis

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A New Theory of Diet and Coronary Thrombosis

By ERNEST KLEIN, M. D.

A New York physician tells of his experiments with a new and revolutionary diet which he believes may prevent coronary thrombosis.

IT is early in the morning and I have just had one of those tragic cases of coronary thrombosis. The man was 46 years old and his wife called me up because her husband, who had always been in perfect health, did not feel well. It was about 5 a. m. When I arrived, the patient was dead. He had had a periodic check-up once a year in his place of employment. I tried to find out what had happened. The periodic check-up did not reveal any heart disease.

It happened that the man, a clerk in the Stock Exchange, bought a new home a few weeks before. Since his new house was just around the corner from the old one, he carried most of their belongings himself to the new house. Last night, after dinner, still in perfect health, he went bowling.

To start at the beginning, let us describe just what happened inside this patient's body before he died. A blood clot closed up the heart artery—that is, the artery that supplies the heart with blood. Fifty per cent of the victims of a "heart attack" (the common name for coronary thrombosis or infarction) survive the attack. Those who survive have a damaged heart muscle. Many people blame the heart itself in cases of "heart attack." This is a wrong conception. The heart

is usually in good condition. Generally the blood is at fault. The blood normally flows easily and steadily through all the arteries and veins, carrying nourishment to all parts of the body. If this flow of nourishment stops for some reason, the tissues starve. If the flow stops entirely, they die. In most parts of the body, if the flow of blood stops, another blood vessel tries to replace the disordered one, so that the blood can continue to flow to the starving part.

There is no replacement for the artery that flows into the heart. If this is closed by a blood clot, the heart tissue starves. There are, however, many branches of the coronary (or heart) artery. If a blood clot slips into the coronary artery the result depends on whether it blocks the main artery or one of the many branches. If it blocks the main artery partially, the attack is not fatal. If it blocks it completely, it is. If it blocks a small branch artery, then the part of the heart that receives nourishment from this branch dies. The name for this is "occlusion of the coronary artery" or "coronary occlusion." Another name for it is "infarction."

One of the unsolved mysteries of the whole process is why the blood clots or coagulates inside the veins. And one of the common treatments for a patient surviving a heart attack is to give him anti-coagulants—that is, drugs that will prevent his blood from clotting too readily.

Now going back in my own personal history, let me tell you of my first observations concerning the blood, which resulted in my conclusions as to how to prevent thromboses or blood clots.

As an admitting physician during the last war I had the chance to observe many coronary occlusion cases. It was routine to take a sample of the patient's blood and examine it. When I took samples of the blood from coronary thrombosis patients, I found that it coagulated so rapidly that I could not get it out of the little glass instrument I was using—a pipette. It stuck to the walls of the pipette so closely that I could not remove it even with peroxide. The pipettes were ruined and I had to discard them all. I made this observation on about 60 or 70 patients. When I eventually found a way to push the blood out of the pipette so that I could examine it, I was surprised to find that the hemoglobin was in all cases

up to 150 Sahli. And the coagulation time was only a few seconds, whereas normally it is about two minutes.

To explain the above, Sahli is the name of a physician who discovered a way of measuring the hemoglobin. Hemoglobin is the red coloring matter in the blood—a very complex substance containing iron. Because it readily holds oxygen, the greater part of the oxygen in the blood is combined with the hemoglobin. This oxygen is distributed to the various organs of the body and is re-supplied to the blood as it passes through the lungs.

The simple apparatus needed to make the Sahli test can be handled by any physician or lab technician. In normal individuals the Sahli test is about 85. But in these coronary thrombosis cases it was up to 150! And, in addition, the time it took the blood of these patients to clot was only a few seconds, compared to the normal two minutes. My conclusion was that the high hemoglobin number together with the short clotting time may be important factors in coronary thrombosis. I believe that my observation could be used to prevent coronary thrombosis, if you can discover the abnormal thickness of the blood before the clotting starts.

Among patients having coronary thrombosis, there are, of course, exceptions. Those suffering from severe changes of the inside walls of the blood vessels may not have a high hemoglobin number and may suffer from a clot anyway caused by the condition of the blood vessel walls. Then, too, patients who have been given anti-coagulant drugs for a former heart attack will not have the high Sahli hemoglobin number and the short coagulation time, for the drugs will have prevented this.

In order to work further on my theory, I went to the blood donation center of the famous Post-Graduate (now University) Hospital in New York where I was put in charge of testing the hemoglobin, the condition of the heart and so forth, of all donors. For three years I had the opportunity of examining the blood of perhaps several hundred people a day. And I had the chance to get their cooperation in testing out various diets to find which diet would reduce a high Sahli number and lengthen a short coagulation time. At the end of a few days or weeks I could once again test their blood

and determine whether or not the diet had accomplished what I wanted.

I came to the conclusion that $\frac{1}{3}$ natural fruit juice, $\frac{2}{3}$ water, some sugar (according to the taste of the individual) and a small amount of salt (to retain the fluid in the body) are the most suitable liquid foods to drop the hemoglobin number as quickly as possible to the normal level. (*Editor's Note:* It goes without saying that *Prevention* does not believe in adding sugar to anything least of all fruit juice or salt, which we believe is harmful in the amounts in which we usually eat it).

At the same time, everything that is dry, like bread, potatoes, cake and so forth should be restricted, because this kind of food seems to use up body fluid. The proportion of fruit juice and water can be changed to $\frac{1}{4}$ juice and $\frac{3}{4}$ water or $\frac{1}{2}$ juice and $\frac{1}{2}$ water, according to the taste of the patient. Pure fruit juice or plain water seem not to be of any help. Water is not retained by the body for a longer period and concentrated fruit juice seems not to agree with most of the test persons if it is taken in the amount necessary to "thin-down" the blood.

All the foods that build up the blood in anemic patients should be restricted or eliminated if we want to get the opposite effect—that of reducing hemoglobin. Then, too, meals with too much steak, liver and eggs push the hemoglobin number still higher.

In January of 1949 I decided to present my observations to the staff of the Post-Graduate Hospital, but I found out that there was no way for me to do this. I might either publish my findings without any support or approval, or forget about everything I had done in the past years to fight coronary occlusion and to find a way to prevent the most dreadful disease of our times. I decided to write a short article and take the risk of being fired from the hospital. I believed that it was more important to attract the attention of progressive physicians who could help me finish the work I considered so important than to keep my discovery a secret and keep my job at the hospital.

After four months the committee of physicians of the Medical Society of New York accepted a very short version

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of my article and published it in *New York Medicine* for May 20, 1949. This is a reputable medical journal of the highest standing. On May 21, 1949, I was fired from my position at the hospital. My daughter, who also worked there, was fired, too. This is the story of my contribution, or let me say attempted contribution, to the fight against the most successful killer—heart disease.

How to recognize the danger and prevent the clotting of the blood by thinning it down to the normal concentration (85 Sahli) is the important thing for the prevention of coronary thrombosis. Diagnostic laboratories should be located all over the country and periodic tests of the "thickness" of the blood will reveal the danger of clotting before it is too late. The hemoglobin number (Sahli) is one of the most important parts of this laboratory test, the prothrombin (coagulation) time is the other. Either test can give us a warning signal that clotting of the blood may occur. Loss of body fluid may occur in many different ways. Two of these are perspiration (many heart attacks in the hot weather) and too little intake of fluids to replace the loss. If the blood concentration is high, the chance of being a victim of coronary thrombosis is greater.

To return to the patient whose story opened this article—in all probability his blood concentration was high. The heavy activity of moving his furniture from one house to the other caused him to perspire freely, depriving his body of fluid. Later when he went bowling, he lost more fluid and the hemoglobin of his blood probably shot up to 135 or 145 Sahli—the danger point at which one may develop thrombosis. It need not be in the heart artery. A clot in a brain artery causes sudden paralysis of an arm or leg or loss of speech, depending on which part of the brain is supplied with blood by the affected artery.

Had this patient been given laboratory examinations showing the two factors I have mentioned—hemoglobin and clotting time of the blood, he might have "thinned" his blood to such an extent that he would not have had the thrombosis. The proper diet for him then would have been vegetarian without any starch or with very little starch and an additional eight to ten glasses of the water-fruit-juice mix-

ture. You may ask why water or tea would not fill the bill in a person whose hemoglobin level is high. Water quenches the thirst but is eliminated into the bladder within 20 to 60 minutes and does not "thin down" the blood for a longer period. The blood holds the fruit-juice-water mixture as a liquid food and keeps it to thin down the blood. The volume of blood increases. This can be shown by determining the blood volume, by taking the hemoglobin number or by observing the weight of the patient. A drop from the dangerous 140-150, to the normal 85 in hemoglobin may take place in some patients within a few days or weeks or it may take years. Even if all or nearly all starches are eliminated from the diet, even if all meats and eggs are strictly avoided, the weight increases 2 to 6 pounds. This weight increase must be due to the increase of blood volume caused by the intake of plenty of fruits, plenty of salads and plenty of water-fruit-juice mixture.

In the individuals at the blood donation center who tried out my vegetarian-fruit diet I found that there was a drop of 30-40 points in the hemoglobin. Another group was asked to eat nothing but steak, liver and eggs. Liquids were mostly eliminated. Small sips of water were permitted. The hemoglobin number went up quickly and the coagulation time was rapidly shortened. If persons of this group were sent to a Turkish bath, the perspiration robbed the circulatory system of body fluid and the hemoglobin number went sky-high within a short period. Frequent heart attacks while in Turkish baths or while engaged in strenuous exertion could thus be explained.

I also discovered that starchy foods like bread, cake, cereal, cookies, pretzels and so forth take away body fluid and are to be considered harmful unless the intake of this kind of food is compensated for by the intake of plenty of liquids. The more cake, cookies, etc. you eat, the more fruit-juice-water mixture you have to drink to prevent dryness in your circulation. This dryness causes an increased concentration of the blood thereby raising the hemoglobin number and causing a decrease in the blood volume. The decrease in blood volume causes the blood cells to move closer together and this increased concentration of the blood cells causes the

high hemoglobin number and the shortened coagulation time of the blood. This favors clotting of the blood.

To summarize, coronary occlusion or thrombosis is preventable. The thickness of the blood may be measured with the hemoglobinometer (the Sahli test) and so be discovered before the heart attack. It may be prevented by using liquid food (natural fruit juices plus water) for the purpose of thinning down the blood.

This mixture must be taken six to ten times a day. Fruits and salads should form the largest part of the solid food. Meat and eggs should be reduced. Starches of any kind take away body fluid when they are digested, thereby causing further concentration of the blood. They should, therefore, be restricted or temporarily eliminated.

(Editor's Note): We have presented Dr. Klein's article as an instance of the kind of observations and deductions that many and many a physician has probably made throughout a long and busy practice. We presented it to show the difficulties faced by such physicians when they try to get help for continuing their research, even when the subject under investigation is as important as coronary thrombosis. We do not believe these conclusions are final—and we are sure Dr. Klein would be the first to agree with us on this. Surely a subject as new and startling as this needs a great deal more laboratory work and closely-controlled experimentation before we know the final answer. But the point is that Dr. Klein apparently cannot get this kind of research help. How many other would-be researchers are in the same fix? And what can be done about it?

We have suggested to Dr. Klein that he try vitamin E therapy in conjunction with his diet for patients whose tests indicate that they may have too high a Sahli number and too short a coagulation time, and hence may be heading for coronary occlusion. As *Prevention* readers know, the effectiveness of vitamin E therapy in heart cases has been demonstrated in many thousands of heart patients. Recently we reviewed a book on this subject—*Vitamin E in Cardiovascular Therapy* by Evan and Wilfrid Shute of the Shute Clinic in London, Ontario, Canada. The book, which is "must-reading" for your physician, is available from the Ryerson Press, Toronto, Canada.