

## MEDICINE

# Disabler Preventive

Rheumatic fever may yield to vitamin P, a plant pigment in red pepper and lemon peel. Effects of the treatment appear consistently favorable.

➤ RHEUMATIC FEVER, dread cause of heart disease in children and young adults, may yield to a chemical found in red pepper and lemon peel. According to a report by Dr. James F. Rinehart, professor of pathology in the Medical School on the San Francisco campus of the University of California, a plant pigment, flavone, known as the permeability factor or vitamin P, has shown considerable promise as a treatment for the great disabler, rheumatic fever.

"To date 19 cases (15 children and four young adults) have been treated for periods of one month or longer by administration of vitamin P," Dr. Rinehart said. "Ten of the 19 cases studied had shown persistent activity of the rheumatic process for periods ranging from six to 17 weeks prior to treatment."

The effects of the treatment were not dramatic but appeared consistently favorable, Dr. Rinehart noted. All cases showed a slowing of the rate at which the red blood cells settled out from the blood serum. This rate is greatly accelerated in rheumatic fever, and a slowing of this rate is a gauge of improvement.

"As urgent as the need may be for an effective treatment for rheumatic fever, an even greater one exists for a preventive," said Dr. Rinehart. "Complete control of streptococcal infections, such as sore throats, is not possible at this time. If nutritional deficiency of vitamins C and P prove to be conditioning factors which prepare the soil for rheumatic fever, prophylaxis can be carried out.

"It seems improbable that improvement noted in these cases was coincidental. It is recognized, however, that rheumatic fever tends to run an unpredictable course and that spontaneous remissions may occur at any time. Consequently this must be considered a preliminary report and final judgment regarding the effectiveness of vitamin P as the treatment of rheumatic fever withheld until a larger number of cases have been studied."

While the bacterial cause of rheumatic fever has not been definitely established, the common occurrence of respi-

ratory infections with various strains of group A hemolytic streptococci preceding the rheumatic fever leads most doctors to believe that this organism is at least one of the causes. However, only a few streptococcal sore throats are followed by rheumatic fever which would seem to indicate that there are other contributing causes.

In a former paper Dr. Rinehart suggested that a mild condition of scurvy, caused by insufficient amounts of vitamin C, might be one of these contributing factors. Guinea pigs which had been deprived of vitamin C and then inoculated with hemolytic streptococci developed a condition similar to rheumatic fever in humans. Treatment of rheumatic fever patients with large amounts of vitamin C, although possibly beneficial, showed no pronounced effect on the course of the illness.

Subsequent investigations on a new factor, vitamin P, lead Dr. Rinehart to believe that the guinea pigs had probably been deprived of this vitamin as well as vitamin C. Also the new P vitamin was found to affect the capillary strength; lack of it caused the walls of the capillaries to become exceedingly

fragile and to rupture easily, causing hemorrhage. Since it is known that vitamin P acts with vitamin C in certain body chemistry, Dr. Rinehart decided to test vitamin P as well as vitamin C on rheumatic fever cases.

*Science News Letter, July 8, 1944*

## CHEMISTRY

## Rubber Replaces Wood In Storage Batteries

➤ WAFER-THIN rubber is now replacing wood as a plate separator in the manufacture of storage batteries, making it possible to ship batteries to battlefronts in a fully charged condition without the acid and water once necessary to insure the electrical charge.

The new use of rubber eliminates the possibility of buckling of wood, which was one of the major causes of battery failure. The plate separators will outlast wood at the ratio of five to one in acid of normal battery strength, increasing the useful life of the battery.

The microporous rubber, made up of millions of tiny cells per square inch, permits complete charging of the battery at the point of manufacture, and shipment without the liquid. This material was developed by scientists of the United States Rubber Company.

After the battery has been completely charged, the acid mixture is removed. The plates and separators are removed and completely dried. After taking off all moisture, they are replaced and the



**RUBBER FOR WOOD**—As the last step in the manufacturing of the new rubber battery separators, hot water is poured on the material to insure the removal of any foreign matter.