

MEDICINE

Pectin May Be Substituted For Blood in Treating Shock

Tests on Animals Show That Standby for Jelly-Making Can Be Used Safely and May Be Useful Against Bleeding

PECTIN, the housewife's standby for jelly-making, may be used as a substitute for precious blood to be transfused into the veins of war-wounded soldiers and civilians to save them from dying of shock, Dr. F. W. Hartman and associates of the Henry Ford Hospital, Detroit, propose. (*Annals of Surgery*, August.)

Tests on patients, guinea pigs, rabbits and dogs, conducted by Dr. Hartman, Dr. Victor Schelling, Dr. Henry N. Harkins and Dr. B. Brush, show that pectin solutions may be useful in treating shock and that they can be used safely.

"The present war has reemphasized the urgent need for blood and blood plasma in the fluid or desiccated (dried) state, which may be used to combat shock and hemorrhage," the Detroit doctors declare.

Collection of dried blood plasma for American troops has been undertaken by the American Red Cross, but even with the largest drying units only 1,000 or 1,200 units of about one-half pint each can be produced in a week.

"From the standpoint of production alone, to say nothing of cost, transportation, storage and application, it seems obvious that some other substances which may be used as substitutes or supplements for blood and blood plasma must be found," Dr. Hartman and associates point out.

The primary need in cases of shock and hemorrhage, they explain, is to replenish the volume of fluid circulating in the veins with a fluid which has identical or similar physical characteristics to the fluid part of the blood. The red blood cells in many cases are not

needed and may even be undesirable.

Isinglass (fish gelatin) and gum acacia solutions have been tried as blood substitutes but have not proved entirely satisfactory. The Detroit doctors find that pectin solutions, properly prepared, have the necessary physical characteristics for transfusion into veins and that they do not produce any damage as measured by tests of kidney and liver function.

Pectin, of course, is abundantly available at a nominal cost and the solutions for transfusion can be easily prepared.

It shows promise as a remedy for shock, although so far it has been used chiefly as a substitute for blood transfusions to ward off shock from surgical operations in a small number of cases.

Science News Letter, August 9, 1941

NUTRITION

Plenty of Vitamin A Is Available for U. S.

FEARS that some national emergency might result in a serious shortage in the United States of vitamin A, essential for normal vision, are not justified, says Dr. Harold M. Barnett, of the Barnett Laboratories, Long Beach, Calif., in a report to the American Chemical Society.

American grown carrots and alfalfa offer unlimited quantities of the vitamin, and they offer a much more convenient source than fish oil and palm oil, he believes.

"Fish must be captured from the waters and palm oil is an imported product," he says. In contrast, carrots and alfalfa can be grown in large quantities in the United States, and carotene, from which the vitamin is obtained, extracted from them quickly and easily.

"Ten thousand acres of carrots grown under proper conditions will yield 20 trillion units of vitamin A," declares Dr. Barnett. "Carrots may be harvested in California every month of the year, thus assuring a steady source of supply. But 10,000 additional acres of carrots cannot be planted and harvested on a moment's notice, nor can equipment for processing such large quantities of carrots be put into operation overnight.

"It would seem wise, therefore, to consider more carefully the possibilities which may lead to a shortage of vitamin A, either in the United States or in countries friendly to it, and immediately broaden carotene production facilities so that an adequate supply of vitamin A is assured for any emergency."

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FIRE GUN

Trigger control speeds firefighting with this new carbon-dioxide extinguisher. Not only does it permit the device to go into action faster, but it also prevents wasting of the gas while the operator is maneuvering around the blaze. The nozzle arm is equipped with a swivel, so that the discharge horn is held in a down position when the extinguisher is not in use. To operate, the horn is swung into a discharge position, it is aimed at the fire and the trigger is pulled. (Walter Kidde and Co.)