

MEDICINE

Step Taken Toward Solving Question of Dropsy's Cause

Spinach Defended as Adequate Iron Source; New Rickets-Preventing Factor Found in Milk

AN IMPORTANT step toward solution of the question of what causes dropsy and one form of kidney disease was reported by Dr. Lillian Eichelberger of the University of Chicago at the meeting of the Federation of American Societies for Experimental Biology.

In dropsy, often associated with kidney and heart disease, watery fluid gets into the body tissues and causes swelling. Nature has fixed it, Dr. Eichelberger explained, so that ordinarily this cannot happen. Otherwise everyone would swell up after drinking water or beer or other fluid.

For the first time the condition of faulty water-handling mechanism, known as hydronephrosis, has been produced in animals in the intermediate as well as the final stages, Dr. Eichelberger reported. As a result, scientists can now probe into the underlying cause of the condition with some hope of solving the problem.

Earlier Detection

Hydronephrosis occurs in some cases of prostate disease and sometimes in pregnancy. Water backs up into the kidneys because the outlets from them are blocked and the pressure destroys the kidneys. It also occurs in renal rickets, an ailment that afflicts children of 10 or 12 years. A disturbing feature of this condition is that the children are without any signs of kidney disease until the last, fatal stage. Dr. Eichelberger's research may lead to ways of detecting the disease earlier and possibly remedying it.

Alkalinity may be a factor in dropsy. Dr. Eichelberger reported she could get much more fluid into the tissues of the animals if she made their bodies alkaline.

Contrary to previous opinion, Dr. Eichelberger also found that a thin person has no more water in his muscles than a fat person.

Spinach was vindicated at a late session of the meeting. Early reports there had showed that only about one-fifth of the vegetable's iron content was in such form that the human body could use it.

Dr. C. A. Elvehjem, of the University of Wisconsin, reminded the scientist-physicians that the total content of iron in spinach is so high that one-fifth of it makes a sizable amount.

An unsuspected rickets preventing element in milk, present after the removal of all traces of the known anti-rachitic vitamin D, was announced to the Society of American Biological Chemists at Memphis by Profs. John M. W. Bunker and Robert S. Harris of the Massachusetts Institute of Technology.

Byproduct of Research

The discovery was a paradoxical byproduct of research. Instead of seeking an anti-rachitic element, the two biologists for the past three years attempted to develop a diet of uniform effectiveness for producing the disease in laboratory rats.

The new factor may make valuable for human and animal food large quantities of casein, a waste product of milk processing which represents one of the great losses in agriculture.

The scientists sought a protein substitute for ground whole corn, the recognized protein constituent of diets used for producing rickets. For some as yet unexplained reason, not all corn will produce rickets.

They experimented with casein, principal milk protein, preparing it absolutely free of all known forms of vita-

min D. They naturally expected rats fed on this diet to develop rickets. Instead they thrived with no trace of the disease. In a further effort to make casein rickets-producing the two biologists predigested it with enzymes and alkalis. But the rats still thrived. The scientists then began changing the calcium-phosphorus ratio in the rat diet. Diets calculated to produce rickets in its severest form had no effect.

The inevitable conclusion was that milk has a hitherto unsuspected anti-rachitic property. Attempts are now under way to find out what part of the casein protects.

Science News Letter, July 3, 1937

PUBLIC HEALTH

Trailers on Highways Are Health Jekylls-and-Hydes

AUTO trailers now luring city people out for a summer's gypsying on the highways of the nation give to the casual observer no hint of sinister deeds, but they have a Jekyll-and-Hyde personality. As they travel the highways they can roll up benefit or disaster to health.

Acting as veritable Dr. Jekyll, the trailers can increase the physical well being of a large part of the population by getting these people outdoors and in sunshine much more than would otherwise be possible.

Acting as Mr. Hyde, they can jeopardize the health not only of those who ride and live in them but of whole communities through which the trailers pass. Here is the picture of Mr. Hyde in a trailer as worried health officers see him:

Communicable diseases—typhoid fever, smallpox, influenza and all the rest—are spread fastest by travel. With thousands of persons travelling constantly, many of whom never travelled be-



STREAMLINED FOR POWER AND SPEED