

NUTRITION

Death From Deficient Diet May Not be Starvation

Rats Deprived of Magnesium, For Example, Die Because of Faulty Use of Fats by the Body

DEATH from an inadequate diet may not be starvation.

The old scientific idea, that when an animal did not get enough of a vitamin or other essential food factor in his diet, his subsequent death was really a form of starvation, has been completely upset by studies of Drs. E. V. McCollum, H. D. Kruse and Elsa Orent of the Johns Hopkins School of Hygiene. Dr. Kruse reported the studies to the National Academy of Sciences.

When an animal does not get enough vitamin B in its diet, the changes in his body as seen after death are identical with those seen in starvation, Dr. Kruse explained. Reasoning from this, scientists have believed that death from any dietary deficiency was the same as starvation.

But the Johns Hopkins scientists have found that when the animal gets too little magnesium in the diet, the picture after death is not one of starvation but of faulty use of fats by the body.

Therefore they believe it is no longer possible to say that death from any and every dietary lack is starvation. So far, they pointed out, this has actually been proved only for vitamin B, and even here the evidence is weak, it appears. The chief symptom of lack of vitamin B is loss of appetite. Animals getting too little B in their diet do not eat enough and actually do die of starvation.

Use of Fat

Whether or not faulty use of fat is the cause of death in other dietary deficiencies aside from magnesium lack is not known at present.

The study of rats fed a diet lacking in magnesium has also thrown light on another important scientific problem, that of the role of the fat, cholesterol, in the body, Dr. Kruse explained. Scientists are not even sure whether this fat has any function, though there is some recent evidence for it. The study reported gives another hint that cholesterol has a function in the body.

The remarkable changes in the rats

when deprived of magnesium, their turning bright red, becoming extremely nervous and subject to convulsions like those of tetany, and the effect on their sexual organs, were reported two years ago. At that time the study had been made in the interests of pure science, to determine whether magnesium was a dietary essential. Apparently it is, but very small amounts of it are required. No cases of illness from lack of it had been reported.

Magnesium Cures Cows

Since the first report of the Johns Hopkins investigators, however, a Dutch scientist, Sjollema, has reported that a complaint in cows of the Netherlands, after they have been in the stalls all winter, is apparently due to lack of

magnesium in the diet. The disease among cattle has been a source of considerable economic loss. By giving the cattle magnesium and calcium, Dr. Sjollema finds that he can relieve the condition, almost magically, he says, if he gives the treatment early enough.

While it is not known whether humans ever become ill from too little magnesium, there is no cause for alarm, Dr. Kruse commented.

"Certainly the ordinary individual is not likely to develop magnesium deficiency on the ordinary mixed diet," he said.

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PHYSIOLOGY

Daily Rhythm of Liver Found Due to Food

THE LIVER has rhythm. Food plays the role of band leader and sets the time for it. Experiments showing this effect of food on liver were reported by Dr. George M. Higgins and associates, Joseph Berkson and Eunice Flock, of the Mayo Clinic to the American Association of Anatomists.

Observations on animals first showed that the liver had rhythm, a slow rhythm



ARK OF THE COVENANT IN JEWISH ART

When archaeologists from Yale and the French Academy dug into a Jewish synagogue at Dura-Europos they found wall paintings such as this. The synagogue dates from 244 A.D., and these pictures are the earliest Old Testament scenes found in a house of worship. This painting represents the Hebrew ark of the covenant being returned after the Philistines captured it in a terrific battle. The Philistines had triumphantly set the captured ark in the house of their god Dagon, but terrible things happened. The painting shows the ark being returned to its owners. It was drawn by two "milch kine" on a cart containing "jewels of gold" which were a trespass offering. At right, Dagon's pedestal stands empty and below is the shattered idol. The story is told in I Samuel, Ch. IV.