

Food Excesses Increase Diabetes

Dietetics

The disease, diabetes, is on the increase, in spite of the many lives saved by insulin. And the unprecedented prevalence of this metabolic disorder is attributed by experts of the Metropolitan Life Insurance Company to "the dietary excesses practiced by the American people."

In 1927, shortly after the wide use of insulin became established, medical statisticians were surprised to find an increase in the diabetes death rate. There was a further rise in 1928, and now 1929 bids fair to reach the highest figure ever recorded. The death rate for the first three months of this year, 23.8 per 100,000, was the highest ever recorded among the industrial policyholders of the Metropolitan Life Insurance Company, a group widespread throughout the United States and comprising a considerable percentage of the total

population. The large increase was due in part to a wide prevalence of influenza and pneumonia which hastened the deaths of a number of diabetics. But apart from such deaths, there has been a large increase in the death rate from diabetes.

Disconcerting as it may seem to the public, physicians and public health workers, to find an increase in diabetes following upon the discovery and use of insulin, the experts of the Metropolitan Life Insurance Company in interpreting the statistics declare that but for the increasing use of insulin the death rate would be still higher.

The fundamental cause of diabetes is unknown. Some change in the pancreas occurs which reduces its output of a secretion which transforms sugar into a form useful for energy and muscle building. Why

the pancreas fails, in some cases, to produce a sufficient amount of this ferment is not known, but the resulting condition is diabetes. Insulin, derived from the islands of Langerhans in the pancreas of animals, has this power of converting sugar into usable form. It supplements the reduced amount of pancreatic secretion of the diabetic, but it does not change the diseased condition of the pancreas itself. It is a treatment, but not a cure and not a preventive. It does, however, enable the patient suffering from diabetes to live out his allotted span of life, usually in a fair state of health and comfort.

The use of insulin has increased, a study of fatal cases showed. According to information obtained from physicians insulin was given in over half the cases, or 63 per cent. of the 1,044 for which data were received.

Science News-Letter, June 29, 1929

Tarantulas and Scorpions Not So Poisonous—*Continued*

fact that they constitute a rather serious menace to the town, the government pays a bounty on all live scorpions brought to the City Hall. This bounty, first paid in 1785, has apparently been offered and paid every year since then. During the scorpion season, March to July, many children devote much time to the business of gathering of scorpions; they are known as *alacraneros*. The number of scorpions brought in annually varies somewhere about 100,000. In 1925, 116,000 were brought in. Since then the number has fallen off, and last year only 8,000 were collected.

In former times, when the doctors had not learned how to treat scorpion victims, the Durango scorpion took an unusual toll of from 30 to 50 children in a city of about 40,000 population. The effect, briefly stated, is a paralysis of the respiratory system so that the victim chokes to death, usually within one or two hours' time. Adults, although they may suffer severely from the effects of the poison, rarely succumb to it.

A somewhat surprising feature about the effect of the poison on adults is that bad characters apparently do not suffer from them. In fact, it is alleged that a scorpion stinging such characters dies itself as a result. One of the generals in Durango assured me that he had

demonstrated this fact on himself. I urged him to come to my laboratory to repeat the test, but for some reason he did not put in his appearance.

On experimental animals, such as guinea pigs, the action of the venom is exceedingly rapid. A guinea pig on being stung in the hind leg began sneezing violently (the first symptom aside from the pain) in a few minutes; in about thirty minutes it was dead from convulsions.

The remedies employed in former days were mainly sweat producers and diuretics. More recently chloroform has been used with very gratifying results. Victims are given just enough of the anesthetic to go to sleep, and then kept in this state for from two to three hours, when the danger of convulsions is usually over. Within the last few years a serum has been developed by Drs. Carlos de la Pena and Isauro Venzor of Durango, which has so far given very good results.

During most of the year scorpions are quite solitary. As a rule one finds but one, or possibly two under one stone. Late in the fall they become social; as many as thirty or more may be found under a stone. At this time they mate, and previous to mating they indulge in their mating dances. A male and a female will seize each other by the pincers

(that is to say, hold hands) and then walk forwards and backwards in a very regular manner.

The young are born alive, sometime during July and August. The family consists of from thirty to forty young. These on being born free themselves from the thin white envelope that encloses them and then proceed to climb onto the mother's back. She, although normally inclined to seize and devour any small creature, even of her own kind, that comes in her reach, appears to have some real affection for her offspring, assisting them in various ways until they have reached a secure foothold. In the event that any little ones fail to get out of the membranous envelope within a reasonable length of time, the mother calmly devours them. The babies remain on the maternal back for ten days or two weeks, after which they must themselves seek food and shelter.

The popular belief that scorpions when surrounded by fire will commit suicide is, of course, founded on error. Although scorpions are somewhat susceptible to the effects of their own poison, they are but slightly so. One scorpion may sting another to death, but never has one been observed to sting itself.

Science News-Letter, June 29, 1929