MEDICINE

Death By Sting Shock

Bees, wasps and hornets can kill by shock. Death at the wheel might be sting death, not heart death. Chemical credited with life-saving role.

See Front Cover

By JANE STAFFORD

➤ BEES, HORNETS, wasps and spiders threaten death, or at least serious sickness, to many. Folk tales generations ago and newspaper accounts in modern times tell of persons who were stung to death through carelessness in handling a nest of wasps or hornets or trying to rob a bee tree. Some of the accounts were about farmers stung to death when the blade of a mowing machine or horse's hoof disturbed a nest of bumble bees.

Farm fields, country homes and gardens are not the only places where this insect sting danger threatens. The driver of an automobile or truck on a highway who crashes his vehicle into another or into a tree may not have been asleep at the wheel or the victim of a sudden heart attack. The shock reaction from a bee or wasp sting may have caused his collapse and death. The number of such cases that have been incorrectly labeled heart or traffic deaths is impossible to estimate.

This new picture of the sting death threat was presented by Dr. D. G. Miller Jr., of Morgantown, Ky., professorial lecturer in medicine at the University of Louisville, Louisville, Ky., and associate professor of preventive medicine at Meharry Medical College, Nashville, Tenn., at the first International Conference on Animal Venoms.

"Killers" Shown

Although merely annoying to some, the creatures shown on the front cover of this week's SCIENCE NEWS LETTER can kill. A scorpion, at the left, crowds a black widow spider. Below and center, a centipede shows its "black crescent of death face" next to a honey bee. At top is a malaria mosquito.

Each year, Dr. Miller said, he and his colleagues have been seeing three to eight patients with severe reactions to stings by insects. Often the patient reported he had only been stung once, though if the sting had been about the head, the swelling would make the patient unrecognizable even to relatives. As an example of severe sting reaction, Dr. Miller related the following incident in his report at the conference:

"Dr. J. Murray Kinsman, dean of the University of Louisville School of Medicine, was stung during the late summer and suffered such a severe and immediate reaction that a colleague who accidentally dropped by the home at the time of the incident found Dr. Kinsman pulseless and without measurable blood pressure in only minutes. Prompt treatment resulted in a complete recovery."

Even more dramatic was the case Dr. Miller reported of a three-year-old boy brought into his office "dying." The child had been playing in some high weeds. He ran to his mother and cried out that a wasp had stung him on his head and then fell to the floor. He immediately turned blue and no heart beat or pulse could be felt and he seemed to have stopped breathing.

Was Thought Dead

The mother feared he was beyond medical assistance, but picked him up and walked across the farm until she located her husband. They located a car to bring the little boy to town, 15 miles away. During the trip they decided the boy was dead and debated whether to take him to the undertaker or to the doctor.

When they reached the doctor's office, the boy was blue and in collapse.

Up to this time, Dr. Miller, like other physicians, had considered the severe reactions to stings as an allergy and had been treating the patients with the usual medicines to constrict blood vessels (familiar to many in nose drops for head colds), cold compresses and anti-histamines as they became available.

This treatment plus a stimulant drug was given to the little boy who was apparently dying from the wasp sting. But the child responded so slightly it was feared he would not live to reach the nearest hospital, 25 miles away, even with oxygen and artificial respiration.

Tries Calcium

At this point Dr. Miller decided to try something new. He remembered that calcium, the tooth, bone and milk chemical, had neutralized the action of the black widow spider's poison "with almost magical, although rather short-lasting relief of the severe muscle cramping."

So he gave the little boy another shot into the veins of the antihistamine, Benadryl, and then, without taking the needle out of the vein, a dose of a calcium lactate solution.

The child got better so fast that he moved his previously limp and paralyzed arm and dislodged the hypodermic needle before the doctor had noticed any change except better color and breathing. The improvement did not last and another dose of calcium lactate had to be given. While the last of this was running into his veins, the child recognized his father, asked for water and ice cream, and said nothing hurt him but a wasp sting on his head.

When Dr. Miller saw the child the next day and the day after, he was apparently normal in every respect.

This experience has led Dr. Miller to recommend that physicians keep calcium lactate in their bags and offices, ready for emergency use in treatment of these shock reactions to stings.

Dr. Miller thinks these severe sting reactions, and similar severe reactions to bites of biting insects, are what scientists call anaphylactic shocks. The person suffering such a shock is reacting in an exaggerated way to a foreign protein substance. He is supersensitive to the venom or toxin or to the body proteins of the insect.

This is something like being allergic to a pollen or food protein, but it is not quite the same. In the case of the anaphylactic shock reaction to insect toxins or venoms, the patient presumably has been bitten or stung once before the bite or sting that brought on the shock reaction. The first one, probably not particularly noticed or remembered, may have sensitized the patient so that the next bite or sting caused the exaggerated reaction.

Suggests Desensitizing

On this theory, such patients might be helped by desensitizing them, using for this purpose extracts of the crushed whole bodies of insects, Dr. Miller suggests. After a series of such injections the patient will not suffer such severe reactions to bites and stings. He also, Dr. Miller says, "is not nearly so attractive to the biting and sucking insects and apparently is less enraging to those that sting."

Following this theory, the person who has had a badly swollen hand or foot or has wheezed and turned blue around the lips after a bite or sting would do well to consult his doctor about the desensitization procedure.

The rest of us who just get a painful sting can go right on pressing out the sting, if possible, and applying household ammonia or baking soda for relief of the discomfort.

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A dose of about 25 roentgens of *radioactivity* received by a person over a brief period of time will produce temporary changes in the blood.

The submarine Nautilus' power plant is the nation's second full-size power-producing *atomic engine;* the first was a land based prototype which first produced substantial power in Idaho in 1953.