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Hornet-sting neuritis

THOMAS W. WALLACE, M.D.
Department of Neurology

ROBERT N. LUDWIG, M.D.*
Department of Gastroenterology

IN 1938 a case of polyneuropathy from the sting of a honeybee was reported.[1] In August 1969 we treated a patient who was stung by hornets, hymenopterous insects, and suffered severely painful polyneuritis. As with the honeybee (*Apis mellifera*), the hornet (*Vespa vulgaris*) and other types of wasp have caused central nervous system damage and mononeuropathy as well as other bodily reactions, but to our knowledge polyneuritis from their sting has not been mentioned previously.

Report of a case

A 46-year-old Caucasian man, an assembly worker, was first examined at the Cleveland Clinic on September 16, 1969, because of pains in the limbs, and a 20-lb. loss in weight within a few weeks. In mid-August 1969 he was stung by hornets while painting his house. He had a history of having urticarial reactions to numerous bee stings suffered while growing up on a farm where hives of honeybees were kept, but he had no recollection of having been stung by hornets or other wasps before. The loss in weight he attributed to impaired taste—an unrelenting "salty taste" to everything.

When attacked by *Vespa vulgaris,* five wasps stung him on the back between the scapulae, two stung him on the back of the neck, and one of the insects stung him on the right ear lobe. The immediate reaction was only local swelling, but two days later neuropathic symptoms developed rapidly, still without indications of a generalized reaction. He felt steadily increasing pain in the back sides of both lower limbs, from the buttocks to the feet, and similar pain along both sides of most of the spine. Within a few hours, tingling paresthesias and burning pain were noted distally in both upper and lower limbs. The pain became so severe within a few days that he was hospitalized for treatment with analgesics to "keep him from climbing the walls." Three weeks later the pain lessened and he was discharged from the hospital.

Because of persistent pain, the patient was unable to return to work, and came to us for further evaluation on September 16, 1969. Results of physical examination disclosed a mild impairment of gait associated with dysesthesias of the feet, mild distal weakness of all four limbs, hypoactivity of the Achilles' tendon reflexes, and slight diminution of cold and light touch sensibility distally in all four limbs.

Complete blood counts, automated blood determinations (SMA-12), blood VDRL, a 4-hour glucose tolerance test, a sulfobromophthalein test, and paper electrophoretic study of blood proteins were all normal. The patient was reassured and was treated with multiple vitamins and analgesics. Two months later, obvious improvement became noticeable, but dysesthesias with pain made worse by prolonged standing did not clear enough to allow his return to work until December 15, 1969.

Comment

Usually, peripheral nerve malfunction is found only near the site of the stinging, suggestive of a direct toxic effect. After bee or hornet stings, ad-

* *Fellow, Department of Gastroenterology.*

jacent mononeuropathies have developed.[2, 3] This implied simplicity of pathogenesis of venomous neuropathy is not really simple. The complex venoms of the honeybee and the hornet differ.[4] The pathogenesis of central nervous system reactions to such poisons is not understood.[3-5] Convincing evidence for hypersensitivity reactions as causes of neuropathy has been accumulated,[1-3, 6-9] but whether vasculitis, some more general serum sickness, or other unknown immunologic factors are operative, is not known. The prior exposures to honeybee stings might have made the patient we treated sensitive to the hornet attack,[7] however this concept remains in the realm of speculation.

Summary

A case of hornet-sting polyneuritis in a 46-year-old man is reported, and the possible causative factors are discussed briefly. We can only speculate as to whether the venom poisoned the nerves, or damaged them by triggering a type of immunologic reaction.

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