



Stroke after Multiple Bee Sting

KEYWORDS

beesting, stroke

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ABSTRACT *Bee stings are commonly encountered worldwide. Various manifestations after bee sting have been described[1]. Local reactions are common. Unusual manifestations like vomiting, diarrhea, dyspnea, generalized edema, acute renal failure, hypotension and collapse may occur. Rarely vasculitis, serum sickness, neuritis and encephalitis have been described which generally develop days to weeks after a sting[2-7]. We report a case of a 52-year-old male who developed left sided brachial monoparesis and left UMN facial palsy following multiple bee stings unlike the previous case reports.*

Introduction

Despite the common occurrence of insect stings and local and systemic allergic reactions,¹ there are few reports of stroke following bee or wasp stings. We report on an elderly man who sustained a stroke after multiple bee stings.

Case report

A 52 year old male working in electric motor workshop was bitten by multiple bees over head and neck region at morning. He was treated by a local quack and sent home. Later in the afternoon he noticed difficulty in speech, deviation of angle of mouth to right side[fig 1] and weakness of left upper limb. He was then referred to government general hospital, Kurnool. Past medical and surgical history were insignificant. Physical examination revealed left upper limb weakness with a power of 2/5, left UMN type of facial Palsy. CT brain was immediately taken which revealed right frontal hypodensities – suggestive of acute infarct [fig 2]. MRI Brain, Carotid and vertebral Doppler was also done which was within normal limits. ECG and Echocardiography were normal. Patient's serum homocysteine, lupus anticoagulant and anticardiolipin antibodies were within normal limits. Patient was treated with antiedema measures, antiplatelet drugs and physiotherapy. His left upper limb monoparesis gradually improved and patient was discharged from the hospital. Aphasia also improved.



Figure 1 : clinical photograph showing deviation of angle of mouth.

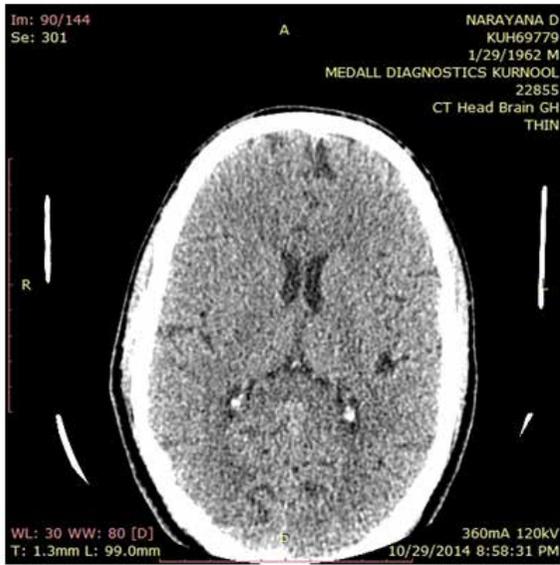


Figure 2 : CT brain showing right frontal hypodensities – suggestive of acute infarct.

Discussion

In literature review, we had few cases of cerebral infarction occurring after bee sting. Maltzman, et al 2 described common characteristics, such as acute to subacute onset of symptoms, moderate to severe visual loss followed by significant recovery (except in one case of a sting directly to the eye) which resulted in oedematous and haemorrhagic optic discs, and central or caecocentral scotomas. Our patient had left facial nerve palsy with left monopteresis.

Seven cases of wasp and bee sting associated cerebral infarction were found in the literature[3-9]. Reported neurological complications following bee sting includes seizure, hemiparesis, aphasia, apraxia, dysarthria, ataxia, and coma. The pathophysiology explaining the associated stroke is unknown. Hypotension caused by anaphylaxis may certainly induce cerebral and optic nerve ischemia; however, this was not documented in our case. Similar to acute myocardial infarction after hymenoptera stings, it has been suggested that vasoconstriction secondary to mediators released after the sting, aggravated by exogenous adrenaline, and platelet aggregation also contribute to cerebral ischemia. 4 bee venom itself contains histamine, thromboxane, leucotrienes, and other vasoactive and inflammatory mediators. In our patient, we postulate that

the systemic immune mediated reaction to the bee sting caused vasoconstriction and a prothrombotic state with subsequent ischemia leading to stroke. In addition, a neuropharmacological (sympathetic) mechanism of endothelial permeability involving the cerebral vasculature with a concurrent systemic thrombogenic

or immune response has also been postulated.5,6

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