

## Letters to the Editor

### Rhabdomyolysis due to multiple honey bee stings

Sir,

Recently, we were involved in the management of a patient who presented to us with renal failure due to venom-induced rhabdomyolysis as a result of multiple bee stings. Severe allergic reactions subsequent to hymenoptera sting is a well-documented emergency.<sup>1</sup> Optic neuritis, vasculitis, generalized polyneuropathy, myasthenia gravis and rhabdomyolysis are some of the unusual reactions following a sting. We report such an unusual case.

A 43 year old South Indian male was exposed to multiple bee stings while rescuing some school girls who had been on a trekking expedition. The school girls were discharged after first aid and none suffered from any major systemic reactions. On admission the patient complained of tightness over the throat, face and swelling over the site of sting. Clinical examination revealed severe angioedema of face, periorbital region, neck and arms. He had sustained 1,600–1,650 sting marks on the face, arms, chest, trunk and tongue. Barbed stings present on the skin were removed. Blood pressure was 120/70 mmHg. Systemic examination was essentially normal. After 16 hours of admission he complained of generalized aches and pains, and passed 200 ml of cola-coloured urine. Thereafter he remained oliguric for 2 days. After one week he complained of partial deafness. Two honey bees were extracted from his right external ear and were sent for identification. They were identified as Indian rock bees or great honey bees of the order Hymenoptera, family Apidae, genus *Apis*, species *dorsata*.

Investigations showed Hb 14.5 g/dl, blood urea 24.9 mmol/l (3.3–6.6 mmol/l), serum creatinine 388.96  $\mu$ mol/l (44.2–132.6  $\mu$ mol/l), sodium 142 mmol/l, potassium 5.6 mmol/l, creatine kinase 1,721 IU/l (0–195 IU/l) and lactic acid dehydrogenase 1,200 IU (230–560 IU). Urinalysis was normal.

Skeletal muscle biopsy was taken from right deltoid muscle, which showed features of muscle damage, with loss of striations and swelling of fibres. Prominent inflammatory reaction was present.

Acute renal failure was managed by mannitol, sodium bicarbonate and optimal intravenous fluids. The cutaneous local reaction was treated by antihistamines, glucocorticoids and local applications. The patient made an uneventful recovery with muscle enzymes and renal function becoming normal in 3 and 5 weeks, respectively.

Each year in the United States twice as many people die as a result of stings by hymenoptera insects as from poisonous snakes.<sup>2</sup> There are three distinct genera of hymenoptera capable of causing sting reactions, namely, Apidae (various species of bee), Vespidae (hornet, yellow jackets and wasps) and Solenopsis (fire ants). The bees have barbed stingers that remain in skin after a sting. The stingers have to be removed to prevent further envenomation from the attached gland. We removed 103 stings from our patient.

Acute renal failure following rhabdomyolysis has been reported due to hornet,<sup>3,4</sup> vespid wasps<sup>5</sup> and honey bee.<sup>2</sup> The muscle necrosis is due to the presence in the venom of

toxic amines and peptides, such as phospholipases, histamines, polypeptidases, serotonin and kinins. Acute renal failure can also occur due to the direct nephrotoxicity of the venom. The generalized myalgia, cola-coloured urine, raised muscle enzyme and skeletal muscle biopsy favours rhabdomyolysis as the cause of acute renal failure in our patient.

Successful management of rhabdomyolysis depends upon early diagnosis and therefore a high index of clinical suspicion. The mainstay for prevention and treatment of myoglobinuric acute renal failure is sodium bicarbonate. The object is to maintain an alkaline urine and prevent dissociation of myoglobin to its nephrotoxic metabolite ferrihemate. Diuretics, notably, mannitol, have a role by promoting diuresis thereby diluting the nephrotoxic substance and flushing through blocked renal tubules.<sup>6</sup> Our patient was managed on the above principles, resulting in diuresis and resolution of renal failure.

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### Response to dietary restrictions in migraine: a comparison of results in children and adults

Sir,

The role of various kinds of food as specific provocative agents in inducing attacks in migraineurs is well documented.<sup>1–3</sup> We wish to report a marked difference in the frequency of this factor between children and adults, as indicated by positive responses to cessation of intake of the particular dietary factor implicated. We are not aware of this difference having been emphasized previously.

A total of 248 children aged 7–16 (males 104) and 216 adults (males 68) aged 20–54 years, suffering from migraine with or without aurae were seen after 4 weeks, and subsequently followed at monthly intervals over a total period of 12 weeks, whilst suspected food items were