

To the Editors:

Severe multi-organ dysfunction following multiple wasp (*Vespa affinis*) stings

The wasp (*Vespa affinis*) is common and widely distributed in Sri Lanka. Wasp venom is known to contain factors that release histamine, enzymes, haemolysins, neurotoxins and vasodilators [1]. Case reports with severe multi-organ dysfunction after wasp stings are few in literature. We report two patients who developed severe multi-organ dysfunction following multiple wasp bites.

Case report 1

A 38-year old previously healthy male was admitted with about 70 wasp stings in September 2000. He felt intense pain and developed swelling of the body immediately. He passed red coloured urine just after the stings and became unconscious 4 h later. He progressively became oliguric with marked swelling of the body and repeated vomiting over the next 2 days. Examination on day 3 revealed deep icterus, conjunctival pallor, oedema of the body, a blood pressure of 170/110 mmHg, a pulse rate of 106/min, myalgia and tenderness in the abdomen. On the day 4 he developed hepatic flaps and became drowsy and dyspnoeic. The oliguria persisted.

His serum creatinine was 340µmol/L, blood urea 18.4mmol/L, total serum bilirubin 213µmol/L (direct 165µmol/L), serum alkaline phosphatase 674 u/L, serum alanine aminotransferase 1778u/L, serum aspartate aminotransferase 1,773 u/L, serum potassium 5.8 mmol/L, serum amylase 529u/L, Hb% 120 g/L, WBC 18 x 10⁹/L with neutrophils 86% and platelet count 138 x 10⁹ L. Albumin, pus cells and red cells were detected in the urine. The electrocardiogram (ECG) showed antero-lateral non-Q wave myocardial infarction.

He was managed with peritoneal dialysis and liver failure regimen. Peritoneal dialysis was continued for 24 days. Repeated ultrasound examinations showed oedematous kidneys persisting up to the 40th day and the serum creatinine level remained elevated for 50 days. The liver biochemistry reversed gradually. Subsequently, he developed mild hypertension (BP 150/100 mmHg) lasting for 5 months despite normal renal function.

Case report 2

A man aged 57 years was stung by 50 to 60 wasps while working in the home garden in October 2001. He was conscious and had generalised oedema, severe myalgia and a blood pressure of 100/80 mmHg. On the first day, he passed 200 ml of dark urine. The blood urea was 9 mmol/L and serum potassium 4.3 mmol/L.

Myoglobinuria was detected. On the second day, his urine output increased to 700 mL, but a 12 lead ECG showed tall peaked T-waves suggesting hyperkalaemia. Peritoneal dialysis was commenced but he died from ventricular fibrillation. At necropsy, multiple sting marks were observed on the scalp, chest, back and arms.

The skeletal muscles were dark red in colour, the lungs were oedematous and the heart showed an occluded right coronary and anterior descending artery. There was no histological evidence of infarction. The kidneys were normal in size but the cut surface showed indistinct cortico-medullary demarcation. The brain and liver were normal. Histology of the kidney showed acute tubular necrosis.

Very often wasp stings are ignored or treated with home remedies. It is not uncommon to see deaths in wasp stings due to anaphylaxis and persistent shock especially among elderly and victims with concurrent illnesses.

Acute myocardial infarction following wasp stings was reported in two patients in 1972 and one of them was young and healthy [2]. Severe hypotension due to anaphylaxis could be attributed as the causation of acute cardiac ischaemia, but other factors such as direct vascular effect of venom need to be excluded. Isolated cases where systemic manifestations included syndromes that mimicked myasthenia gravis, reversible optic neuropathy and mastocytosis are reported [3–6].

The patients reported here had acute life threatening multi-systemic involvement that included myocardial infarction, acute hepatorenal failure and pancreatitis. Severe muscle damage producing myoglobinuria with hypotension and hypovolaemia might have contributed to the renal damage.

References

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