Severe rhabdomyolysis and acute renal failure due to multiple wasp stings

Sir,

Rhabdomyolysis has been implicated as the cause of acute renal failure in \ (~5–7\% of cases [1]). Many cases of rhabdomyolysis-associated acute renal failure have been published, but those due to bee or wasp stings are quite rare [2–4], and are not reported in Korea. We here present a case of severe rhabdomyolysis and acute renal failure due to multiple wasp stings.

Case. A 63-year-old farmer presented with facial oedema and lower extremity weakness after 50–60 wasp stings 2 days previously. On admission, wasp sting lesions were spread over the entire head, face, trunk and extremities. There was no evidence of haemolysis. Laboratory findings was consistent with rhabdomyolysis, acute renal failure and hepatic dysfunction: blood urea nitrogen (BUN) 55.7 mg/dl, serum creatinine 3.2 mg/dl, creatine phosphokinase (CPK) 132 000 IU/l, lactate dehydrogenase (LDH) 13 130 IU/l, aspartate alaninetransferase (AST) 5970 IU/l, alanine aminotransferase (ALT) 1494 IU/l, serum aldolase 394 IU/l (normal 1.7–5.7 IU/l), urine myoglobin > 3000 ng/ml (normal 0–7 ng/ml). Bone scintigraphy showed increased soft tissue uptake in the buttock, thigh and leg regions. In view of the clinical history and laboratory findings, we considered rhabdomyolysis with impaired liver function and subsequent acute renal failure due to multiple wasp stings.

With intravenous hydration and administration of furosemide and bicarbonate, renal function returned to normal on the seventh hospital day, and liver function and muscle enzymes were normalized within 1 month of the incident.

Comment. The wasp has venom dangerous to kidneys (acute renal failure), blood (intravascular haemolysis), muscles (rhabdomyolysis) and liver (hepatic dysfunction) [2]. In this case, the patient had acute renal failure, rhabdomyolysis and hepatic dysfunction, but there was no evidence of haemolysis. Although the exact pathophysiological mechanism of rhabdomyolysis due to wasp stings is not well known, direct toxicity of the venom to muscles is considered as the main cause. The cause of acute renal failure due to the wasp sting includes acute tubular necrosis, acute interstitial nephritis, pigment nephropathy resulting from rhabdomyolysis or intravascular haemolysis, and hypotension caused by an anaphylactic reaction [2–4]. In this case, there was no evidence of haemolysis and no episode of hypotension. Because we did not perform a kidney biopsy, we could not explain the exact mechanism of acute renal failure. However, we think that because muscle enzymes (CPK, LDH and aldolase) were highly elevated and subsequent myoglobinuria was so severe, this severe myoglobinuria might be an important cause of acute renal failure.

Early recognition is essential in the treatment of rhabdomyolysis. Therefore, persons who have sustained multiple stings by honeybees or wasps should be taken to a hospital as soon as possible, even if they appear to be well. Physicians must consider and exclude not only an anaphylactic reaction but also damage to the kidneys, blood, liver and muscles.


DOI: 10.1093/ndt/gfg106