Rhabdomyolysis and Acute Renal Failure Due to Honeybee Stings As an Uncommon Cause

M.	Murat	Sert
T.	Tamer	Tetiker
S.	Saime	Paydas

Çukurova University, Faculty of Medicine, Department of Internal Medicine, Adana, Turkey

Saime Paydas, MD, University of Çukurova, Faculty of Medicine, Department of Nephrology, TR-01330 Adana (Turkey)

Dear Sir,

Rhabdomyolysis has been implicated as the cause of acute renal failure in approximately 5-7% of cases [1]. Many cases of rhabdomyolysis associated with acute renal failure have been published, but those due to bee stings are quite rare [2,3]. We present a case of rhabdomyolysis and acute renal failure due to honeybee stings.

A 68-year-old man admitted to hospital within 2 h after being stung by thousands of honeybees. He was healthy until this event. His physical examination disclosed an-gioedema, multiple areas marked by erythema and enduring skin lesions due to bee stings on his face, scalp and extremities. Blood pressure and pulse rates were 140/100 mm Hg and 120/min, respectively. ECG was normal except sinus tachycardia. Serum AST and ALT levels were 195 and 9 U/l, respectively. Other laboratory tests were normal. He was treated with intravenous prednisolone, antihistamines and mannitol.

On the 3rd day hospital, in urine volume decreased from 1,000 to 300 cc/day. Blood urea nitrogen (BUN) and serum creatinine levels increased to 87 and 6.5 mg/dl, respectively. The color of his urine changed from yellow to dark brown. Serum CPK level was 46,320 U/l (normal: 25-196); AST 899 U/l (normal 5-40); ALT 285 U/l (normal: 5-40), and LDH 3,935 U/l (normal: 150-380). Urinary sodium was 115 mEq/l. Fractional sodium excretion was 3%. Renal failure index was 4%. Myoglobin in the urine was found to be negative by the dipstick test. On the 4th day, the patient was lethargic and BUN was 107 U/l, ALT 310 U/l, LDH 4,110 U/l, Ca 9.6 mg/dl, P 10.4 mg/dl and uric acid 8.5 mg/ dl. Serum fibrinogen was 450 mg/dl; FDP < 10, and prothrombin time 14 s. Kidneys were normal with no obstruction in abdominal ultrasonography. On the 5th day, laboratory data showed BUN 210 mg/dl; creatinine 10.7 mg/dl; K 7.8 mEq/l, Ca 8.3 mg/dl, P

10.8 mg/dl, LDH 4,025 U/l, CPK 50,260 U/l, AST 120 U/l, and ALT 354 U/l. Arterial blood gas analysis disclosed metabolic aci-dosis. The patient died because of sudden cardiac arrest due to hyperkalemia (the last laboratory findings were obtained after the patient died).

Rhabdomyolysis and acute renal failure due to bee stings are rare among causes of rhabdomyolysis found in the literature. Although it is not know exactly, both acute intravascular hemolysis and acute myolysis can account for kidney involvement.

Nevertheless; direct toxic effects of bee venom on nephrons inducing a tubuler necrosis can not be eliminated [4].

Despite treatment, renal failure and hyperkalemia developed in our patient: hyperkalemia is known to be a common complication in patients with acute renal failure due to rhabdomyolysis [5]. In addition to other common reasons for rhabdomyolysis, honeybee stings may also cause rhabdomyolysis and acute renal failure.

References

- Koffler A, Friedler RM, Massry SG: Acute renal failure due to nontraumatic rhabdomyolysis. *Ann Intern Med* 1976;85:23-28.
- Murray J: A case of multiple bee stings. *Cent Afr J Med* 1964;10:249.
- Venters HD, Vernier RL, Worthen HG, Good RA: Bee sting nephrosis: A study of the immunopathologic mechanisms. *Am J Dis Child* 1961;102:688.
- Joshua H, Ishay J: The haemolytic properties of the Oriental horned venom. *Acta Pharmacol Toxicol* 1973;33:42.
- Knochel JP: Rhabdomyolysis and myoglobinuria; in *The Kidney in Systemic Disease*, ed 2. New York, Wiley, 1981, p 263.
- ©1993 S. Karger AG, Basel
0028-2766/93/
0654-0647\$2.75/0