Dear Sir,

We report a case of acute renal failure (ARF) without hemolysis or rhabdomyolysis after multiple wasp stings. ARF after multiple stings from the hymenoptera species is a well-known [1] but still rare phenomenon (18 cases) [2-7] and its occurrence is exceptional in European countries with only 1 case reported [7]. Then, ARF is related to an acute tubular necrosis due to rhabdomyolysis or intravascular hemolysis.

A 56-year-old man with no history of renal disease was stung in the north-east of France by a swarm of wasps (vespula germanica); between 20 and 30 stings were located on both upper limbs and the face. He was first treated with dexamethasone and H1 histamine inhibitors. During the first 12 h the patient felt unwell with a gastroenteritis-like syndrome. At a local hospital, 18 h after poisoning, no shock was observed.

Forty-eight hours after poisoning, he developed ARF with oligoanuria and was transferred to our intensive care unit. On admission, blood pressure was 130/60 mm Hg, urinalysis was normal and diuresis was restored after diuretic administration (see biological data in table 1). Moreover, no hemolysis was observed (no hemoglobinuria, free hemoglobin and haptoglobin level within normal ranges). A normal renal angiography discarded any renal vascular lesion. In spite of urine flow restoration, ARF got worse and required hemodialysis on the 3rd day. Then, renal function improved gradually and had returned to normal 3 months later. No kidney biopsy was performed.

In the literature, ARF after wasp stings is attributed to rhabdomyolysis or hemolysis. Rhabdomyolysis seems secondary to the poisoning action of phospholipases, polypeptides, histamine and serotonin from wasp venom [2,3,8]. In the same way, intravascular hemolysis appears related to phospholipase A and basic protein fractions [2]. In both cases, intraglomerular clotting of myoglobin or hemoglobin induces ARF.
The case reported above is quite different. Indeed, no hemolysis or rhabdomyolysis could be found. There was no sign of anaphylaxis. A functional ARF after initial hypotension could not be positively ruled out (dizziness, no data during the first 12 h); nevertheless, follow-up does not plead for this mechanism. The true pathophysiology of this ARF which suggests an acute tubular necrosis has still to be established.

So, ARF after multiple wasp stings is not necessarily due to hemolysis or rhabdomyolysis. Although there is no definite evidence of direct kidney toxicity of venom, such hypothesis cannot be excluded.

References

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