

## LETTER TO EDITOR (VIEWERS CHOICE)

# MULTIPLE BEE STINGS INDUCED MULTIORGAN DYSFUNCTION IN A 4 YEAR OLD FEMALE

Munar Lubis, Ria Puspitasari, Rina AC Saragih  
Department of Pediatrics, Faculty of Medicine University of Sumatera Utara, Indonesia.

A 4 year old, female was hospitalized with pneumonia, sepsis, renal and liver failure. Three days prior to hospitalization, she had several bee stings. Multiple erythematous nodules and pustules were noted all over her body (Figure 1). The next day, she had cough, jaundice, hematuria, dyspnea and edema on face, neck, and extremities. On presentation to the hospital, she was tachycardia, tachypnea with normal blood pressure and good perfusion. Oliguria was noted. Laboratory results revealed leukocytosis, thrombocytopenia, metabolic acidosis with renal and liver impairment. Chest x-ray result showed pneumonia. Systemic corticosteroid (methylprednisolone at 1 mg/kg/dose every 8 hours) and diphenhydramine were given. Initially ceftriaxone was started and then shifted to meropenem in view of non-response. She improved after ten days.

**Figure 1.** Multiple pustular lesion on hand with yellow skin



Venomous bites and stings remains a significant worldwide problem.<sup>1</sup> Rough estimation of immediate systemic reactions to insect stings varies around 1 to 7%.<sup>2,3</sup> A small percentage of the population may develop systemic or generalized reactions that involve the whole body. Most of these reactions are due to immediate IgE-mediated allergic reactions.<sup>4</sup> Multi-organ dysfunction after bee stings are extremely rare.<sup>5</sup> The mechanisms underlying bee sting injury may comprise the direct toxic effect of venom and immune

**CONTACT** Munar Lubis

**Email:** [Lubismunar@yahoo.com](mailto:Lubismunar@yahoo.com)

**Address for Correspondence:** Prof Dr. Munar Lubis, Sp.A, University of Sumatera Utara Hospital, JL. Dr. Mansyur No. 66, Medan 20154, Sumatera Utara, Indonesia.

©2019 Pediatric Oncall

## ARTICLE HISTORY

Received 6 March 2019

Accepted 20 May 2019

## KEYWORDS

multiple organ dysfunction, bee sting, sepsis, organ failure

inflammatory reaction to venom composition, both of which can lead to organ failure.<sup>6</sup> The level of cytokine interleukin (IL) -6 in serum is increased, whereas regulatory T lymphocytes decreases significantly in patients in the acute phase, suggesting the induction of an immune-inflammatory reaction.<sup>6</sup> The wasp/bee venom toxicity is attributed to hemolytic, myotoxic, neurotoxic, vasodilatory, nephrotoxic and hepatotoxic enzymes.<sup>7</sup> The severity of clinical manifestation is related to the number of stings.<sup>6</sup>

## Compliance with Ethical Standards

**Funding:** None

**Conflict of Interest:** None

## References :

1. White J. Bites and stings from venomous animals: a global overview. *Ther Drug Monit.* 2000;22:65e68.
2. Golden DBK. Advances in diagnosis and management of insect sting allergy. *Ann Allergy Asthma Immunol* 2013;111:84-9.
3. Golden DBK, Moffitt J, Nicklas RA, et al. Joint Task Force on Practice Parameters; American Academy of Allergy, Asthma & Immunology (AAAAI); American College of Allergy, Asthma & Immunology (ACAAI); Joint Council Of Allergy, Asthma, and Immunology. Stinging insect hypersensitivity: a practice parameter update 2011. *J Allergy Clin Immunol* 2011;127:852-4.
4. Brown SG. Clinical features and severity grading of anaphylaxis. *J Allergy Clin Immunol* 2004; 114:371-6
5. Wani M, Saleem S, Verma S, Yousuf I, Wani M, Asimi R, et al. Multiple cerebral infarctions with severe multi-organ dysfunction following multiple wasp stings. *Ann Indian Acad Neurol.* 2014;17:125e127.
6. Xie C, Xu S, Ding F, Xie M, Lv J, Yao J, et al. Clinical Features of Severe Wasp Sting Patients with Dominantly Toxic Reaction: Analysis of 1091 Cases. *PLoS One.* 2013; 8: e83164.
7. Klotz JH, Klotz SA, Pinnas JL. Animal bites and stings with anaphylactic potential. *J Emerg Med.* 2009; 36: 148-156.