

## Haemolytic Anemia due to Scorpion Bite: A Case Report

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### Abstract

Scorpion bite is a common health problem in tropical and subtropical countries. It generally presents with localized, painful, tingling or burning sensation. We report a case of scorpion bite presented with haemolytic anemia. A 26-year-old female, stung by scorpion, developed jaundice and fever after 1 week. Investigations revealed haemolytic anemia and excluded its all known causes, leading us to a diagnosis of haemolytic anemia due to scorpion bite. She responded well to blood transfusion, IV fluids, and folic acid and prednisolone. Thus we conclude that haemolytic anemia should be kept in mind during the management of these patients.

### Keywords:

Haemolytic anemia; Cardiovascular systems; Haemolytic uremic syndrome; Bilirubin

### Introduction

Scorpion bite is a prevalent health issue in various parts of the world, particularly in tropical and subtropical countries like Pakistan [1,2]. Generally, it's harmless and follow a benign clinical course as localized painful, tingling, burning or numbing sensation [3]. It also, though rarely, presents with serious and acute life-threatening complications in respiratory, neurologic and cardiovascular systems [4]. These include widespread numbness, dysphagia, thickening of tongue, blurriness of vision, roving eye movements, seizures, salivation, dyspnea, acute pulmonary edema, haemolytic uremic syndrome, stroke, and death [3-8]. It is an important cause of mortality, primarily in children [9]. A few cases reported earlier showed haemolytic uremic syndrome due to scorpion bite [5-7]. We report a case of scorpion bite presented with haemolytic anemia.

### Case

A 26-year-old female, resident of Quetta, presented to our hospital on 15<sup>th</sup> June, 2013 with fever, jaundice and yellowish discoloration of urine for two days. A scorpion stung her 1 week back. Past, transfusion, drug, allergic, personal, family and socioeconomic histories were unremarkable.

On physical examination, she was lethargic. Temperature was 100°F. Anemia and jaundice were present.

On investigations, complete blood count showed hemoglobin 5.4 g/dl, MCV 93 fl, MCHC 31%, red cell count 2.01 million/mm<sup>3</sup>, hematocrit 18.6% and total leukocyte count 8900/mm<sup>3</sup> with neutrophils 76%. Peripheral smear showed hypochromic anisocytosis. Reticulocytes were 12%. Total bilirubin was 4.02 mg/dl with indirect bilirubin of 2.57 mg/dl. SGPT and Alkaline Phosphatase were 38 iu/L and 156 iu/L respectively. HBsAg, anti-HCV IgG, anti-HAV IgM and anti-HEV IgG were non-reactive. Serum anti-dsDNA, ANA, ASMA, AMA and direct Coombs test were negative. Urea, creatinine and

electrolytes, LDH, serum albumin concentration, PT, APTT and ultrasound abdomen were normal.

Haemolytic anemia due to scorpion bite was diagnosed. During hospitalization, 2 pints of packed red cells were transfused, IV fluids were administered, and folic acid and prednisolone were given. She responded well and was discharged after 1 week. Folic acid and prednisolone were given for 1 month after discharge. Bilirubin came to normal after 1 month. Last follow-up was done after 6 months.

### Discussion and conclusion

The purpose of this case report is to draw attention to the possibility of haemolytic anemia following scorpion bite.

Pakistan, a subtropical country, faces huge burden of patients with scorpion bite. [1,2,9] Despite that, we don't have any data in this regard. This ignored topic needs much attention in our part of the world.

Out of 2000 species of scorpions, only 25-40 are dangerous to humans [3]. Scorpion bites cause a wide range of manifestations, from several local skin reactions to neurologic, respiratory, hematologic, and cardiovascular complications [3]. The scorpion venom causes these manifestations. It contains neurotoxin, hemolysins, agglutinins, haemorrhagins, leucocytolysins, coagulins, ferments, lecithin, endotheliolysins and cholesterin[3,7,10].

This case shows haemolytic anemia following scorpion bite as an unusual presentation.

Hemolysins in the scorpion venom are the possible substances causing haemolytic anemia by direct destruction of RBCs. Agglutinins, coagulins and endotheliolysins cause microangiopathic haemolytic anemia of haemolytic uremic syndrome [5,6,7]. Further molecular level studies are needed to understand the mechanism of haemolytic anemia and develop its better management protocols.

We conclude that haemolytic anemia is a possibility after scorpion bite and should be kept in mind while managing these patients.

## Declarations

Ethics approval and consent to participate was taken

Consent for publication was taken

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Every author contributed to this case

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