



## Scorpion sting in a pregnant woman: A case report

Selim Bozkurt<sup>1</sup>, Mehmet Okumus<sup>1</sup>, Besime Utku<sup>1</sup>, Deniz Cemgil Arikan<sup>2</sup>, Ugur Lok<sup>3</sup>, Fatma Betul Duygu<sup>1</sup>

### ABSTRACT

Scorpion envenomations remain a serious health problem in many parts of the world, generally occurring in the summer months. While there are a number of case reports in the literature regarding scorpion stings, reports of envenomation occurring during pregnancy are rare. We present in this article a rare case of a sting by the yellow scorpion in a pregnant woman. A 27-year-old woman in the 10th week of gestation presented to our emergency service with a history of a scorpion sting. The patient underwent cooling on the sting areas and was administered 1 g IV paracetamol. In this case, antivenom was not used because the patient exhibited no systemic signs of toxicity and did not meet criteria for antivenom administration. The maternal and fetal follow-up were normal, and the mother gave birth to a healthy baby at the end of the gestation.

**Key words:** Scorpion sting, pregnancy, healthy baby

### Introduction

Millions of people worldwide are bitten or stung by venomous animals yearly, which can result in serious health problems or death [1]. Scorpion envenomations remain a serious health problem in many parts of the world, including Turkey [2-4]. Scorpion venoms and their adverse effects are widely reported in the literature [2-7]. However, scorpion stings of pregnant women have been scarcely reported [8]. In this case, we discussed both the maternal and fetal outcome in an early-stage pregnant woman who was stung by a yellow scorpion.

### Case Report

A 27-year-old woman G4P2A1 (4th Gestation, 2 Partum, 1 Abortus) at the 10th week of gestation presented to the emergency service of the Medical Faculty in Kahramanmaraş after being stung by a yellow scorpion. Kahramanmaraş city is in the eastern Mediterranean region of Turkey. Her history revealed that a scorpion had stung her at two sites (elbow and wrist) 15 minutes before. She described a sudden and severe pain developing at her elbow and wrist immediately after the sting, which rapidly spread throughout her arm in a few minutes. The patient described an

**Author affiliations** : <sup>1</sup>Department of Emergency Medicine, <sup>2</sup>Department of Obstetrics and Gynecology, Sutcu Imam University Faculty of Medicine, Kahramanmaraş, Turkey <sup>3</sup>Department of Emergency Medicine, Adiyaman University Faculty of Medicine, Adiyaman, Turkey  
**Correspondence** : Selim Bozkurt, MD, Department of Emergency Medicine, Sutcu Imam University Faculty of Medicine, Kahramanmaraş, Turkey  
e-mail: selimbozkurt01@yahoo.com

**Received / Accepted** : November 01, 2012 / December 29, 2012

excruciating pain without any other local or systemic complaints. Her vital findings included: blood pressure at 110/70 mmHg, a regular pulse and rate of 97 beats/min, and an axillary temperature of 36.5°C. Her physical examination revealed 1x1 cm hyperemia and a sting sign (puncture) at the elbow and wrist. Her blood counts and biochemical blood screens (glucose; 102 mg/dl, aspartate aminotransferase; 15 U/L, alanine aminotransferase; 22 U/L, sodium; 136 mmol/L, potassium; 3.6 mmol/l, blood urea nitrogen; 10 mg/dl, creatinine; 0.8 mg/dl, white blood cell count; 8 140/ $\mu$ L, hemoglobin; 11.5 gr/dl, platelet; 324 000/ $\mu$ L) were normal. The electrocardiogram (ECG) revealed only sinus tachycardia. An obstetric consultation and ultrasonography were performed. The obstetric ultrasonography revealed a fetus with a regular heartbeat at the 10th week of gestation, with a routine gestational follow-up being recommended.

The patient underwent ice bag cooling on the sting area at 15-minute intervals for 12 hours, and was administered 1 gram of IV paracetamol. Her pain decreased half an hour after management and had completely resolved 12 hours later. She was discharged after 24-hour observation. Her gestational follow-up visits remained normal and her pregnancy condition was good; at 38 gestation weeks, she gave birth to a healthy baby boy weighing 3,100 grams. The patient delivered vaginally, and the first- and fifth-minute APGAR scores of the baby were 7 and 9, respectively. The mother and baby's hospital follow-up after birth was normal and they discharged successfully in the postpartum 1st day.

### Discussion

The most common symptom occurring in cases of scorpion stings is immediate localized pain (97.5%); systemic manifestations (e.g., fever, sweating, hypertension, vomiting) were uncommon (3%) [5,6]. The most frequent ECG finding was reported previously as sinus tachycardia [6,7]. In our case the main complaint/symptom was localized pain; there was no systemic symptom, and the victim had only sinus tachycardia and no other ECG findings or concomitant cardiac adverse effects.

Venomous scorpion stings during pregnancy have been reported only rarely. Serious scorpion envenoma-

tion during pregnancy may lead to a poor outcome in both the mother and fetus [8]. Leibenson et al. [9] reported a case of a yellow scorpion (*L. quinquestriatus*) sting in the 32nd week of gestation in a pregnant woman, which resulted in fetal death in the 38th week. Also, Zengin et al. [10] reported a case of eclampsia as a result of a scorpion sting in the third trimester. In a study of 52 envenomations by the scorpion *Androctonus crassicauda*, 2 pregnant women were included. Little information was provided on these individuals, except that one was 28 years old and the other was 27 years old when stung. Both received antivenom, and their fetuses remained stable. No adverse consequences were reported in either mother or fetus [11]. Kankonkar et al. [12] reported that a number of pregnant women succumbed to the red scorpion (*Buthus tamaris*) sting in the Konkan region in India, but no details were provided. Marei and Ibrahim [13] found that the uterus of the pregnant rat seems to be more sensitive to the effect of scorpion venom during early pregnancy. They recommend that pregnant women stung by *L. quinquestriatus* during the first trimester be treated with antivenom and a 5-hydroxytryptamine antagonist. Unpublished observations attributed to Ibrahim report that stings from *L. quinquestriatus* result in abortion in pregnant women during the first trimester in most cases [14]. Even though antivenom administration was not performed in this case, pregnancy continued normally and the mother gave birth to a healthy baby.

A large retrospective study of patients stung in Tunisia (*Androctonus australis* and *Buthus occitanus*) recommended routine antivenom therapy only in the case of severe scorpion envenomation (grade II and grade III), not for localized (grade I) complaints and findings [7]. Grade I included patients who had only localized manifestations (local pain and paresthesias at the sting site) of a scorpion sting; grade II included patients who also had systemic manifestations (e.g., fever, hypertension, vomiting, blurred vision, abnormal eye movements, slurred speech, tongue fasciculations, sweating, and hypersalivation), and grade III included patients with cardio-respiratory manifestations, mainly cardiogenic shock and pulmonary edema or severe neurological manifestation (coma and/or convulsion) [7]. Antivenoms may be used in the treatment of the

envenomed pregnant women; however, antivenoms can cause allergic reactions such as shock or anaphylaxis [15] that may have an adverse effect on both the mother and the fetus [8]. The symptomatic treatment is important and should not be neglected. Pain can be attenuated by usual analgesics (paracetamol) as well as local cooling of the sting site by any means available (water, ice, cooling agents). In most of the cases, this treatment will be sufficient for an adult [15]. In the presented case, antivenom therapy was not given in the absence of systemic symptoms and findings, and symptomatic and supportive management (IV paracetamol and cooling) was sufficient for relief of the localized pain, with a healthy baby being born at the end of gestation.

In conclusion, in this case, antivenom was not used because the patient exhibited no systemic signs of toxicity and did not meet criteria for antivenom administration. A common opinion regarding the medical management of antivenom therapy will be determined in the future after accumulation in the literature of more cases that involve envenomation during pregnancy.

#### Conflict of interest statement

The authors have no conflicts of interest to declare.

#### References

- White J. Bites and stings from venomous animals: a global overview. *Ther Drug Monit* 2000;22:65-8.
- Adiguzel S, Ozkan O, Inceoglu B. Epidemiological and clinical characteristics of scorpionism in children in Sanliurfa, Turkey. *Toxicon* 2007;49:875-80.
- Altinkaynak S, Ertekin V, Alp H. [Scorpion envenomation in children]. [Article in Turkish]. [Türk Pediatri Arşivi] *Turkish Archives of Pediatrics* 2002;37:48-54.
- Soker M, Haspolat K. [Scorpion sting in children in the southeast of Turkey: a review of 64 cases]. *Çocuk Sağlığı ve Hastalıkları Dergisi* 2000;43:43-50.
- Goyffon M, Vachon M, Broglio N. Epidemiological and clinical characteristics of the scorpion envenomation in Tunisia. *Toxicon* 1982;20:337-44.
- Al B, Yilmaz DA, Söğüt O, Orak M, Üstündağ M, Bozkurt S. Epidemiological, clinical characteristics and outcome of scorpion envenomation in Batman, Turkey: A analysis of 120 cases. *The Journal of Academic Emergency Medicine* 2009;8:9-14.
- Bouaziz M, Bahloul M, Kallel H, Samet M, Ksibi H, Dammak H, et al. Epidemiological, clinical characteristics and outcome of severe scorpion envenomation in South Tunisia: multivariate analysis of 951 cases. *Toxicon* 2008;52:918-26.
- Langley RL. A review of venomous animal bites and stings in pregnant patients. *Wilderness Environ Med* 2004;15:207-15.
- Leibenson L, Leibenson M, Silberstein T. Antepartum fetal death following a yellow scorpion sting. *Arch Gynecol Obstet* 2010;281:247-9.
- Zengin S, Al B, Oktay MM, Kilic H. Scorpion sting: eclampsia. *BMJ Case Rep* 2012 Sep 7;2012.
- Ismail M, Abd-Elsalam MA, al-Ahaidib MS. *Androctonus crassicauda* (Olivier), a dangerous and unduly neglected scorpion-I. Pharmacological and clinical studies. *Toxicon* 1994;32:1599-618.
- Kankonkar RC, Kulkurni DG, Hulikavi CB. Preparation of a potent anti-scorpion-venom-serum against the venom of red scorpion (*Buthus tamalus*). *J Postgrad Med* 1998;44:85-92.
- Marei ZA, Ibrahim SA. Stimulation of rat uterus by venom from the scorpion *L. quinquestriatus*. *Toxicon* 1979;17:251-8.
- Osman OH, Ismail M, el-Asmar MF, Ibrahim SA. Effect on the rat uterus of the venom from the scorpion *Leiurus quinquestriatus*. *Toxicon* 1972;10:363-6.
- Chippaux JP, Goyffon M. Epidemiology of scorpionism: a global appraisal. *Acta Trop* 2008;107:71-9.