Case Report / Olgu Sunumu

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Thrombocytopenia Developing After Centipede Bite

Kırkayak Isırığı Sonrası Trombositopeni

Veysiye Hülya Üzel[1], Meki Bilici[2], Rıdvan Doğan[3], Kamil Yılmaz[4], Özhan Orhan[5]

[1]Dicle University Faculty of Medicine, Department of Pediatric Hematology, Diyarbakır, Turkey
[2]Medical Park Kocaeli Hospital, Clinic of Pediatric Pediatric Cardiology, Kocaeli, Turkey
[3]Nusaybin State Hospital, Clinic of Pediatric, Mardin, Turkey
[4]Dicle University Faculty of Medicine, Department of Pediatric, Diyarbakır, Turkey
[5]Kızıltepe State Hospital, Clinic of Pediatric, Mardin, Turkey

Abstract

Centipede bites have been reported rarely in humans. The mechanism of centipede toxin is not fully understood. Skin reactions develop more in centipede bites. In this text, we will present a case that developed thrombocytopenia after a centipede bite. An 18-month old female infant was bitten on the back of the right hand and the right side of the forehead. She applied to the emergency department with the complaint of redness and swelling that started in the morning hours after the bite. The vital signs of the patient were stable. The patient had no systemic complaints. The patient's laboratory tests, PLT was 28,000 K/UL were determined. During follow-up of the patient, bleeding symptoms developed associated with thrombocytopenia. The follow-up examination 10 days later, thrombocyte count was determined as 302,000 in the full blood count. Centipede bites are not greatly reported and the actual incidence is undoubtedly higher than assumed. Although the majority spontaneously recover with only simple local reactions that have formed, they can lead to serious complications such as acute myocardial infarcts, acute coronary ischemia, acute renal damage, anaphylaxis, or thrombocytopenia. Therefore, following a centipede bite, patients must be evaluated carefully and attention must be paid in respect of complications.

Keywords: Centipede, thrombocytopenia, child

Öz

İnsanlarda kırkayak ısırıkları nadir olarak bildirilmiştir. Salgıladığı toksinin mekanizması tam olarak bilinmemektedir. Deri reaksiyonları daha çok gelişir. Bu yazıda; kırkayak ısırması sonrası trombositopeni gelişen bir olguyu sunacağız. On sekiz aylık kız hasta gece saatlerinde sağ el sırtından ve başın sağ ön kısmından ısırılmış. Isırık sonrası sabah saatlerinde başlayan kızarıklık ve şişlik şikayetiyle acil servise başvurdu. Hastanın yaşamsal bulguları stabildi. Bakılan tetkiklerinde trombosit sayısı 28.000 K/UL saptandı. Hastada trombositopeniye ait kanama semptomları yoktu. Kontrol amaçlı 10 gün sonra bakılan tam kan sayımında trombosit sayısı 302.000 K/UL olarak bulundu. Kırkayak ısırmaları çok fazla bildirilmese de sıklığı sanıldığından fazladır. Çoğunluğu kendiliğinden düzelen sadece basit lokal reaksiyonlar oluşturmasına rağmen akut miyokard enfarktüsü, akut koroner iskemi, akut böbrek hasarı, anaflaksi, trombositopeni gibi ciddi komplikasyonlara yol açabilirler.

Anahtar Kelimeler: Kırkayak, trombositopeni, çocuk

Introduction

Centipedes, of which more species are found in tropical and subtropical regions, are anthropods widely seen especially in homes and gardens.[1,2] More than 3.000 species have been identified.[1] Centipedes, which like dark and damp places, vary in size from 3-250 mm in length and each segment has 2 legs known as forcipules.[2] Centipedes release venoms by piercing the skin with the forcipules. The mechanism of centipede toxin is not fully understood.[3] Skin reactions develop more in centipede bites and local findings can be determined such as severe pain, edema, redness in the bite area.[4-6] More rarely, they can lead to systemic symptoms such as nausea, vomiting, headache, dizziness, and loss of consciousness.[4,7]

Address for Correspondence/Yazışma Adresi: Veysiye Hülya Üzel, Dicle University Faculty of Medicine, Department of Pediatric Hematology, Diyarbakır, Turkey
E-mail: drhulya-uzel@hotmail.com **ORCID ID:** orcid.org/0000-0002-3037-2353
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Anaphylaxis and coronary artery ischemia have been reported in a few more serious cases after a bite, and in 2 cases, death.[2,8,9]

Centipede bites are seen more in those who live in rural areas, in people who picnic outdoors, in hikers, and in those who frequent areas where centipedes live.[10] As the majority of bites do not create any symptoms, there is generally no need to present at any healthcare facility and therefore the incidence is not fully known. Consequently, there are insufficient data in the literature related to centipede bites. The case is here presented of a patient who developed thrombocytopenia following a centipede bite, which to the best of our knowledge, has not been previously reported in the literature.

Case Report

Consent was obtained from the parents of our case for this article. An 18-month old female infant was bitten on the back of the right hand (Figure 1A) and the right side of the forehead (Figure 1B). She applied to our emergency department with the complaint of redness and swelling that started in the morning hours after the bite. The centipede that had made the bite had been caught on the infant's head and was brought to the ED in a glass jar (Figure 2).

The vital signs of the patient were stable. Around the bite location on the back of the right hand, there was observed to be slight redness, increased temperature, edema, and on the forehead, there was slight swelling and bruising around the bite location. The patient had no systemic complaints. Body temperature was measured as 36.8 °C. In the laboratory tests applied, acute phase reactants were negative, liver function and kidney function tests, electrolytes, INR, cardiac markers were determined to be within the normal reference range. In the full blood count, platelet was 28,000/mm^3, white blood cell; 11.700/mm^3, hematocrit 35.1%, and neutrophil count were 9.3/mm^3. On the peripheral blood smear, there were observed to be single large thrombocytes. The atypical cell was not seen. A peripheral blood smear was compatible with thrombocytopenia. In a full blood count taken 1 month previously, platelet had been reported as 492,000 K/UL.

A single dose tetanus injection was applied to the patient. The extremity was elevated and ice was applied because of edema. Tests were performed in respect of bleeding, DIC, and potential pathologies. Viral and bacterial tests (TORCH and *Brucella*) for thrombocytopenia were normal. Bone marrow aspiration was not performed because the platelets increased spontaneously. During follow-up of the patient, no symptom developed associated with thrombocytopenia. In the full blood counts taken daily, a gradual increase was determined in the platelet level. On the 4th day, as the thrombocyte count was 71,000 and clusters of 5 thrombocytes were observed on the peripheral blood smear, the patient was discharged with recommendations.

At the follow-up examination 10 days later, thrombocyte count was determined as 302,000 in the full blood count. Platelets were determined to be sufficient and clustered on the peripheral blood smear. No complaints were determined in the follow-up of the patient. For the case report, her family approved it.

Conclusion

Centipedes are often seen around houses, in gardens, and, fields with flowers in Turkey. They migrate in the autumn because of rainwater in the habitat. Entering houses, they settle under furniture and wooden items, and in cellars that are dark and damp. This causes them to come into greater contact with people. Human exposure to centipedes may be as bites or ingestion. A centipede bite is not a bite in the

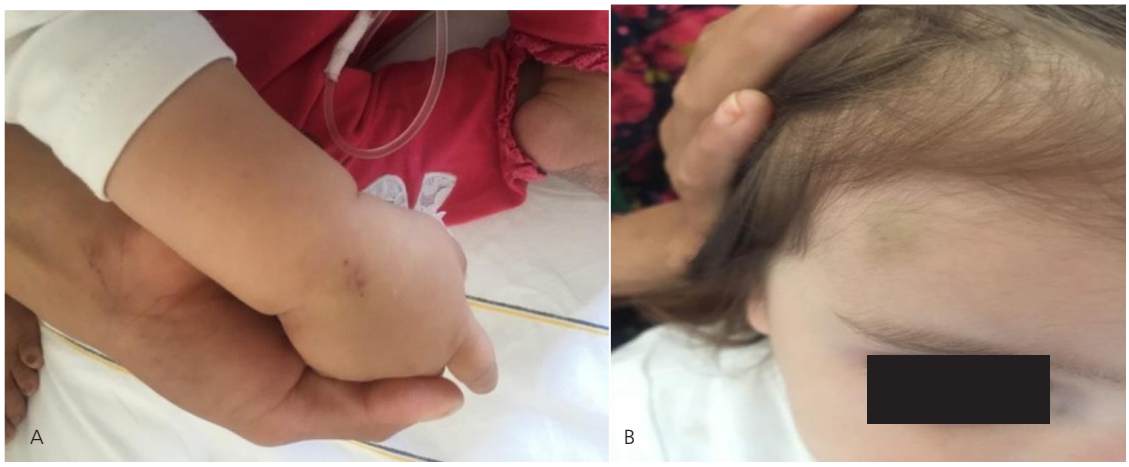

Figure 1A, B. An 18-month old female infant was bitten on the back of the right hand and on 1 the right side of the forehead

Figure 2. The centipede that had made the bite had been caught on the infant's head and was 3 brought to the emergency clinic in a glass jar

exact meaning of the word. Human skin is pierced by the legs, which are known as forcipules, and toxins are released. There is little information in the literature about the biochemical compound of centipede poison.[1] Symptoms are usually seen as local reactions in the bite localization, most often as pain, redness, and swelling.[4,7] More rarely, numbness, lymphangitis together with lymphadenitis, and bacterial superinfections have been seen in the bite region.[4,7] Mild systemic findings such as nausea, vomiting, headache, and anxiety may also be determined more rarely than local skin findings.[4,7] There have also been severe cases of centipede bite reported in the literature.[8-12]

In 1 patient, Wells syndrome, which is acute dermatitis known as eosinophilic cellulitis, was reported to have developed.[12] Hawai reported 2 cases, one of which was a 22-year old gardener who developed myocardial infarcts with ST-elevation after a centipede bite, and the other was a 44-year old female who developed acute renal failure and rhabdomyolysis requiring hemodialysis.[10] Cases have also been reported of anaphylaxis and acute coronary ischemia developing after a bite.[8,9] Mortality is not often seen after a centipede bite. To date, the fatal case has been reported. One was a 7-year old girl who died after a bite on the head.[12] Three pediatric cases have been reported to have presented following accidental or deliberate swallowing of a centipede. One was an 8-month old male infant, 1, a 9-month old male, and 1, a 1- year old female infant, and no complications were reported in any of these cases.[1] The case presented in this paper was an 18-month old female, who had been bitten in 2 places; the back of the right hand and the right frontal region of the head. The family had caught the centipede on the patient's head and brought it to the ED (Figure 2). In this patient, there was pain, redness, swelling, hyperemia in the bite region, which was consistent with the literature. The parents reported fever but in the measurements taken at the hospital, no increase in temperature was determined. Unlike other cases in the literature, the current patient developed thrombocytopenia. The patient had no history of thrombocytopenia and the platelet level had been determined as normal in a full blood count taken 1 month previously. Despite the thrombocytopenia in the patient, no findings related to thrombocytopenia were determined. Without the application of any treatment, the thrombocyte count was seen to gradually increase. This increase was confirmed from the peripheral blood smear.

There is no standard treatment for centipede bite, and it is basically in the form of supportive treatment.[9,10] There is no anti-venom.[1] The most simple treatment is the application of ice and the use of oral analgesia.[2] Antihistamines for the symptoms can be used, and anti-inflammatories are recommended for inflammation control and pain.[10] It has been reported that the duration and severity of symptoms can be reduced by providing protein denaturation with immersion in water of different temperatures after a bite.[9] The wound must be kept clean and covered to protect against secondary infection, and a tetanus injection must be administered.[4,10] In cases where bacterial superinfection develops, systemic antibiotics are recommended.[11]

Centipede bites are not greatly reported and the actual incidence is undoubtedly higher than assumed. Although the majority spontaneously recover with only simple local reactions that have formed, they can lead to serious complications such as acute myocardial infarcts, acute coronary ischemia, acute renal damage, anaphylaxis, or thrombocytopenia. Therefore, following a centipede bite, patients must be evaluated carefully and attention must be paid in respect of complications.

Ethics

Informed Consent: Consent was obtained from the parents of our case for this article.

Peer-review: Externally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: V.H.Ü., R.D., M.B., Concept: V.H.Ü., K.Y., Ö.O., Design: V.H.Ü., M.B., K.Y., Data Collection or Processing: V.H.Ü., M.B., Ö.O., Analysis or Interpretation: M.B., Ö.O., R.D., Literature Search: V.H.Ü., K.Y., R.D., Writing: V.H.Ü., R.D., M.B.

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References

1. Veraldi S, Cuka E, Gaiani F. Scolopendra bites: a report of two cases and review of the literature. Int J Dermatol. 2014;53:869-72.

2. Balit CR, Harvey MS, Waldock JM, Isbister GK. Prospective study of centipede bites in Australia. J Toxicol Clin Toxicol. 2004;42:41-8.
3. Fung HT, Lam SK, Wong OF. Centipede bite victims: a review of patients presenting to two emergency departments in Hong Kong. Hong Kong Med J. 2011;17:381-5.
4. Burnett JW, Calton GJ, Morgan RJ. Centipedes. Cutis 1986;37:241.
5. Uppal SS, Agnihotri V, Ganguly S, Badhwar S, Shetty KJ. Clinical aspects of centipede bite in the Andamans. J Assoc Physicians India. 1990;38:163-4.
6. Mohri S, Sugiyama A, Saito K, Nakajima H. Centipede bites in Japan. Cutis. 1991;47:189-90.
7. Logan JL, Ogden DA. Rhabdomyolysis and acute renal failure following the bite of the giant desert centipede Scolopendra heros. West J Med. 1985;142:549-50.
8. Ozsarac M, Karcioglu O, Ayrik C, Somuncu F, Gumrukcu S. Acute coronary ischemia following centipede envenomation: Case report and review of the literature. Wilderness Environ Med. 2004;15:109-12.
9. Bush SP, King BO, Norris RL, Stockwell SA. Centipede envenomation. Wilderness Environ Med. 2001;12:93-9.
10. Guerrero AP. Centipede bites in Hawai'i: a brief case report and review of the literature. Hawaii Med J. 2007;66:125-7.
11. Friedman IS, Phelps RG, Baral J, Sapadin AN. Wells' syndrome triggered by a centipede bite. Int J Dermatol. 1998;37:602-5.
12. Pineda EV. A fatal case of centipede bite. J Med Assoc. 1923;3:59-61.