Case Report

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Oro-pharyngeal Bee sting unusual but life-threatening site

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ABSTRACT

Hymenoptera stings are among the most significant causes of anaphylaxis in the entire world. The response varies with symptoms ranging from skin reactions like rash and itching to respiratory discomfort, gastrointestinal issues, and cardiovascular failure. We report a case of 34-year-old male who survived after sustaining an oropharyngeal bee sting, one of a rare site but life-threatening one. He presented after having painful swallowing in the throat while drinking a local beverage, trouble breathing, hoarseness of voice, speech interruption, and a feeling of a bump in the throat. On physical examination, he was desaturated, tachypneic, and had wheezing. He was kept in the emergency department with suspected upper airway obstruction secondary to an oropharyngeal bee sting. He was managed with O_2 support, repeated doses of adrenalin, steroids, and salbutamol, and then discharged home improved.

Key words: Anaphylaxis, Envenomation, Bee sting, Oropharyngeal, Airway

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1. Introduction

One of the most common causes of anaphylaxis worldwide is Hymenoptera stings. (1,2) The majority of venom-induced anaphylaxis responses in Northern European nations, with a lifetime frequency of up to 7.5% in people, are linked to honeybee stings. Around one third (17.5-42.0%) of anaphylactic responses brought on by stings are categorized as severe. (1,3) Anaphylaxis-related deaths are generally uncommon, occurring at a rate of about 0.1 incidents per million people annually in Europe, Australia, and North America. However, a sizable majority of sting-related deaths are probably undiagnosed, particularly if the causal sting is not seen by caregivers or bystanders or if mucocutaneous indications of anaphylaxis (urticaria, flushing, or angioedema) are subtle or nonexistent. (3)

The head and neck area of victims are affected by over half of Hymenoptera stings, yet there are extremely few cases of oropharyngeal bee stings. We described an instance in which the victim drank a local alcoholic beverage 'Tej' and got stung by a honey bee on the oropharynx.

2. Case Report

A healthy 34-year-old male came after sustaining an oropharyngeal bee sting of 30mins duration. He was having a drink, a locally prepared alcoholic beverage (also known as "Tej") whose process of formation often involves honey. A honey bee was inside the bottle he was using for drinking and accidentally swallowed it with the drink, which he felt while swallowing, then stung his throat. Initially, he was fine but after around 5 minutes, he progressively developed trouble breathing, hoarseness of voice, speech interruption, and a feeling of a bump in the throat.

He had a history of allergic dermatitis and allergic rhinitis since childhood having an exaggerated response to colds, bad odor, and allergens. Otherwise, he has no history of vomiting, loose stool, abnormal body movement, wasn't taking any medications, and has no recent history of exposure to other allergens. He has also no history of bronchial asthma or other known chronic illness.

On physical examination, he looked acutely sick with respiratory distress oxygen saturation of 88%, tachypnea, tachycardia, and bilaterally diffuse wheezing on the chest. However, he was normotensive, conscious, with no rash or other pertinent findings on systemic examinations. Direct laryngoscopy showed erythematous oro-pharynx but no swelling over the uvula.

He was managed with supportive intranasal oxygen with nasal prong 2lt/min, maintained his saturation above 95%. Epinephrine 0.5mg IM every 10mins for 3 doses, Salbutamol6 puff every 20mins for 3 doses, Cimetidine 200mg IV stat, and Dexamethasone 8mg IV sat were given. We were ready for intubation in the meantime, the patient showed improved symptoms with stabilized vital signs. He was counseled and discharged home.

3. Discussion

The 3 families of Hymenoptera are the bees (honeybees, bumblebees), vespids (yellow jackets, hornets, wasps), and stinging ants (genus Solenopsis and others). The most aggressive Africanised honeybee ('killer bee') is an experimental hybrid because of its large number of stings from their swarm-and attack behavior. Bee sting hypersensitivity responses are mediated by a variety of immunologic mechanisms and can range in severity from mild urticaria to severe anaphylaxis. (4,5)

Hymenoptera stings can result in both local and systemic responses that may impair the heart and lungs and even end in death. Hymenoptera stings can cause uncommon reactions, such as local reactions following unusual sting localization, and reactions with atypical signs and symptoms. To

date, for most of these reactions, the specific pathogenesis remains unknown. Multiple metabolic pathways may be linked to Hymenoptera stings. Understanding these pathways may help researchers better understand the processes behind sting harm and identify therapeutic targets. (6-9)

This patient presented 30 minutes after sustaining a sting to his pharynx, an unusual but life-threatening site of sting without skin symptoms. Studies showed a short latency time and the absence of skin symptoms indicates severe systemic sting reactions in honeybee and wasp venom allergic patients. (10, 11) Even though this patient had a previous history of hypersensitivity reactions, no correlation could be found between the degree of sensitization and the severity of the allergic reaction. There was no significant correlation between the quantity of specific IgE antibodies to entire venom extracts or key allergens and the intensity of the sting reaction. (12)

He sustained the sting while drinking 'Tej' without noticing the Bee. Oropharyngeal stings are uncommon but have the potential to be lethal due to localized edema that blocks the upper airway. The sting occurs commonly while eating or drinking outside where the bees are present in the food or liquid. They frequently localize in the straw or container when consuming a canned or bottled beverage. In cases like the one we describe, a severe anaphylactic reaction to poisonous stings can result in laryngeal edema, which can cause suffocation and eventual death if not treated early. (4, 13)

Patients with oropharyngeal bee stings are high-risk patients requiring a timely decision, urgent treatment, and close monitoring in a setup where advanced resuscitation and airway protection with intubation can be performed with skillful personnel when the need arises. We were prepared for intubation in our case but he responded to the medical therapy. (14)

This patient was managed with adrenaline, dexamethasone, and salbutamol. Studies showed most patients with bee stings were managed similarly to previous reports. (13, 15-18) A delayed reaction may appear 5 to 14 days after a sting and consist of serum sickness like signs and symptoms of fever, malaise, headache, urticaria, lymphadenopathy, and polyarthritis. It is advised to avail epinephrine auto-injector immediately and administered as soon as a severe reaction is suspected. However, an epinephrine auto-injector is not available in our country. Therefore, an early visit to a health facility is essential. Death after delayed reaction depends on various factors such as location and number of stings, history of previous allergic reactions, and pre-existing coronary atherosclerosis. Such patients should be cautioned to avoid eating and drinking outdoors, particularly from beverage containers. (4, 19-21) The lesson learned from this case was early identification and preparation for air way protection in airway bee stings before deterioration.

4. Conclusion

We reported a rare case of Bee stings to the Oropharyngeal, which has the potential to be lethal leading to sudden death. It is necessary for patients who suffer from being envenomated by a bee sting to be referred to medical centers promptly and receive appropriate treatments to prevent undesirable complications, especially airway obstruction for those who had an oropharyngeal bite.

Conflict of Interest

The authors declares that they have no conflict of interest.

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