

**CASE REPORT**

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**Facial paralysis caused by the bee sting****Erkan Yildiz<sup>1</sup>, Orhan Kemal Kahveci<sup>2</sup>, Sahin Ulu<sup>2</sup>, Tulay Koca<sup>3</sup>**<sup>1</sup>*Afyonkarahisar Şuhut State Hospital, Department of Otorhinolaryngology, Afyonkarahisar, Turkey*<sup>2</sup>*Afyonkarahisar Healty Science University Hospital, Department of Otorhinolaryngology, Afyonkarahisar, Turkey*<sup>3</sup>*Afyonkarahisar Healty Science University Hospital, Department of Physiology, Afyonkarahisar, Turkey*

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**Abstract**

Bee sting is one of the most common insect poisoning. It usually begins with local symptoms such as pain, redness, and fever following a local pain. Rarely, anaphylaxis, myocardial infarction, organ failure, epilepsy and other neurological diseases have been reported. Peripheral facial paralysis is one of the common diseases of the otolaryngology clinic. Although it is usually idiopathic, trauma and tumors are the two most common causes. Topographic and electrophysiological tests are used in the diagnosis. In this presentation, peripheral facial paralysis due to bee sting will be discussed. An 18-year-old male patient was admitted to our emergency service with an apical sting in the left mastoid region for two hours before the operation. Ear nose throat examination was normal. Right facial paralysis was present. The patient was discontinued in 12 days with a dose of 3 mg per day starting from 1 mg / kg of Feniramin 1 \* 1 and methyl prednisolone<sup>1</sup>. "Pheniramin 1 \* 1 and methyl prednisolone 1 mg / kg were started and the dose was cut in 12 days Symptoms of the patient decreased from day 10 and returned to normal at 15th day.

**Keywords:** Bee sting, peripheral facial paralysis, steroid, electrophysiological tests**Introduction**

The most common insect stings are bee stings. Reactions caused by bee stings are divided into two groups as early and late. Early reactions start from 15 minutes to 4 hours. They cause severe anaphylaxis and can cause death. Local reactions and anaphylaxis occur early. Late reactions usually occur after 7-10 days. In the late period, they cause diseases such as Myasthenia Gravis, myocarditis, Gullian Barre like polymyelitis, peripheral neuritis, glomerulonephritis, vasculitis.

Reactions occur due to IgE-dependent or independent reactions. IgE-dependent individuals due to increased IgE, depending on the release of mediators such as histamine, proteases, loco-transgenins and thromboxanes. Due to the influence of these mediators, wide range of complaints from local reactions to anaphylaxis occurs. Skin tests can be used in the diagnosis. Steroids, antihistaminics, adrenaline and venom immunotherapy are the most commonly used treatment modalities [1,2].

Peripheral facial paralysis, Bell Palsy, is one of the most common causes of otolaryngology. The nerve that induces a single facial half occurs due to traumas, tumors and disconnection due to ischemic events. Electrophysiological tests and topographic tests are used for diagnosis. Steroids and antivirals are the most commonly used treatment modalities. Steroids increase muscle movement; antivirals Herpes Zoster infections and idiopathic cases are also useful. The prognosis of Bell's paralysis is very good, and 85% have complete recovery in 4 weeks [3].

In this presentation, a case of facial paralysis due to bee sting at the age of 18 will be discussed. The patient was informed about the case presentation.

**Case Presentation**

An 18-year-old male patient was admitted to our emergency service with an apical sting in the left mastoid region for two hours before the operation. Ear nose throat examination performed was normal. Right facial paralysis was present. (Figure 1a, 1b, 1c) The patient was discontinued in 12 days with a dose of 3 mg per day starting from 1 mg / kg of Feniramin 1 \* 1 and methyl prednisolone. The patient's complaints decreased from day 10 and returned to normal on Day 15 (Figure 2a, 2b, 2c).

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**Figure 1.** Eye, mouth and normal posture after bee sting



**Figure 2.** Post-treatment 15th day of the eye, mouth and normal posture image

## Discussion

Peripheral facial paralysis is divided into primary and secondary paralysis. Bell palsy (idiopathic causes) is an important part of these cases. Secondary causes are traumas, tumors, ischemic causes, diabetes, immunological disorders. Physical examination, brain MR, electrophysiological tests, blood tests, cerebrospinal fluid examinations are used in the diagnosis of peripheral facial paralysis [4].

In the treatment of secondary facial paralysis, the underlying cause is eliminated. In primary facial paralysis, steroids, antivirals, pentoxifylline, decompression, Botulinum toxin are used. Intratympanic steroids are useful in cases that prevent systemic steroid administration. [4,5].

85-95% of the facial paralysis is reversible. 20-30% of those who do not receive treatment will return spontaneously. Full return time is 3 months at the latest. Those with advanced age, patients with complete paralysis, no return in more than 3 weeks, Rumsey-Hunt Syndrome, patients with severe pain, secondary facial paralysis in the prognosis is poor. Facial paralysis complaints can be seen for a long time such as crocodile tears, synkinesis, drowsiness, facial spasm [6].

Bee stings are the most common insect bites. Local and systemic complaints related to the type 1 immune reaction can be seen. In

the literature, cases such as Gullian Barre-like polmyelitis, optic neuritis, corneal injury, vasculitis, cerebral infarction, nephrotic syndrome, acute renal failure have been reported due to late reactions [7-12]. Facial paralysis due to bee sting has not been previously reported. Probably it can be considered that the payment on the facial nerve tracing or the pandemic toxin develops due to impaired nerve conduction. Only one case has been reported due to tick bite [3].

As a result, serious reactions due to bee sting and late period disorders can be seen. In this case, facial paralysis due to bee sting was treated with steroid. No additional treatment is required.

### Conflict of interest

*The authors declare that there are no conflicts of interest.*

### Financial Disclosure

*All authors declare no financial support.*

### Ethical approval

*No ethical certificate was obtained because it was a case presentation.*

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