International Journal of Innovation and Applied Studies
ISSN 2028-9324 Vol. 39 No. 2 Apr. 2023, pp. 536-537

http://www.ijias.issr-journals.org/

# Hypoasthesia lip caused by protective mask: A case report

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**ABSTRACT:** We report a case of unilateral mental nerve hypoesthesia following prolonged wearing of mask causing numbness of lower lip and chin. In this case, patient is reassured and advised to avoid injuries to the mouth and lips till they are numb. However, specific treatment is not required.

**KEYWORDS:** Hypoasthesia, lip, protective mask.

## BACKGROUND

Paresthesia is defined as a sensory disturbance with clinical manifestations such as burning, prickling, tingling, numbness, itching or any deviation from normal sensation [1]. Whereas hypoesthesia is defined as a decrease in normal sensation. Hypoesthesia can occur when any kind of injuries cause damage to the nerve fiber. The causes of injury are direct injury from needle injection around the nerve fiber, mechanical injury including indirect pressure, and toxicity of local anesthetic agents [2].

The mental nerve passes through the mental foramen and innervates the soft tissues of the chin, lower lip, and gingiva on the ipsilateral side of the mandible with sensory innervations [3]. We report a first case of unilateral mental nerve hypoesthesia following prolonged wearing of N100 mask causing numbness of lower lip and chin.

## HISTORY AND CLINICAL FEATURES

A female patient of age 32 years, who is a dental professional too presented to the clinic complaining of numbness of her chin and right lower lip since 1 month. She also complained about feeling weird when chewing. She described her sensations as similar to the numb feeling after dental treatment under local anesthesia. The area of numbness corresponded to the area of innervations of the right mental nerves. There wasn't any relevant family history. There was not any past or present relevant medical history. There was not any history of trauma. Patient gave history of wearing N 100 face mask to protect herself from SARS-COV-2 in dental operatory for 3-4 hours daily from past 1 month. On examination, temperature and pain sensation were intact on left side but she complained of mild hypoesthesia of touch and pain on the right lower lip. There was no abnormality in the motor function of the lip. There wasn't any abnormal finding in the oral cavity as well as radio graphically. She was advised to shift on double surgical mask/n95 in spite of N99 mask. The patient was treated by oral administration of methylcobalamin and vitamin B1. She was recalled after a week for follow up. The numbness at the right side of her face was also regressed gradually from her chin to a small area under the right side of her lower lip after 1 week. The symptoms resolved completely after 2 weeks. An informed consent was taken from the patient for reporting the case.

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## DISCUSSION

Facemasks and respirators are important parts of personal protective equipment for health care workers in hospitals as well as for civilians during SARS COV 2 pandemic outbreak. Though wearing mask is recommend and it has protective function, it has negative effects as well on prolonged wearing. Long duration wearing of N95 respirator may induce physiological stress on the wearer, making regular tasks more challenging, and causes headaches among healthcare providers [4].

The mental nerve is the mandibular division of the trigeminal nerve (cranial nerve V), which innervates the anterior part of the jaw, lower lip, labial gingiva, and premolars. Mental nerve starts from the mental foramen of the mandible and is divided into a branch leading to the jaw and two further branches which supplies the skin and mucous membrane of the lower lip [5]. In this case, the patient experienced numbness of the right lower lip and chin. These symptoms indicate a mental nerve injury. The ipsilateral numbness of lower lip and chin has occurred which can be due excessive pressure applied due to tight grip of mask on the mental foramen leading to nerve compression which resulted in hypoesthesia. Compression of the area can lead to mechanical deformity or ischemic injury of the nerve. Cases of mental nerve injury followed by extended face anesthesia mask time of more than 30 min [6], tight seal of anesthetic mask due to difficult airway [7], or compression of adjuvant tissue by oropharyngeal airway [8] support this hypothesis.

## CONCLUSION

In this case, patient is reassured and advised to avoid injuries to the mouth and lips till they are numb. However, specific treatment is not required.

## KEY FINDING

Tight fitting protective mask prolonged use can lead to compression of mental nerve.

## ACKNOWLEDGEMENT

I would like to thank my co-author Dr Tushar Sharma for insightful discussion about the case as well as for helping me for assistance in reporting the case.

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