Intraoral ulcer due to non-invasive positive pressure ventilation: an overlooked complication

Katsunori Masaki,1,2 Atsushi Chiyotani,3 Ichiro Nakachi2,3

1Saiseikai Utsunomiya Byoin, Utsunomiya, Tochigi, Japan
2Pulmonary Department, Keio University School of Medicine, Shinjuku, Tokyo, Japan
3Department of Internal Pulmonary Medicine, Saiseikai Utsunomiya Byoin, Utsunomiya, Tochigi, Japan

Correspondence to
Dr Ichiro Nakachi, nichiro4747@gmail.com

Accepted 9 February 2017

DESCRIPTION

A male patient aged 81 years reported with dyspnoea and loss of consciousness, at our emergency department. His respiratory rate was 30 breaths/min, and his level of consciousness determined using the Glasgow Coma Scale was eye (1), verbal (1) and motor (4). Despite oxygen administration via a bag valve mask, his percutaneous oxygen saturation level was measured as only 81%. Physical examination revealed weak vesicular sound on auscultation, suggesting he had severe emphysema. Arterial blood gas analysis after continuous bag valve mask ventilation revealed pH 7.014, undetectably high pCO2 and pO2 of 89 tor. The patient was admitted with the diagnosis with acute exacerbation of chronic obstructive pulmonary disease (COPD). Insufficient spontaneous breathing required installation of mask-type non-invasive positive pressure ventilation (NIPPV: FiO2, 0.35, IPAP, 10 cm H2O, EPAP, 3 cm H2O). After continuous NIPPV support for 8 days, an intraoral ulcer was detected on the patient’s lower lip (figure 1). Despite the ulcer penetrating his lip (figure 2), the patient did not complain of any pain. The continuous tight ventilator pressure caused the lesion because the patient had only two teeth on his lower jaw, which were in contact with his lip. Subsequently, the patient required another course of NIPPV owing to re-exacerbation of COPD. Hence, the only alternative was to extract the two teeth to avoid ulcer formation. Although skin ulcer due to NIPPV has been reported,1–3 and caregivers must pay attention to the exclusively internal complication in the oral cavity and the nasal bridge.

Learning points

▸ Non-invasive positive pressure ventilation (NIPPV) mask can cause ulcer on the nasal bridge and also in the intraoral region.
▸ The oral cavity should be carefully observed routinely in the case of mask NIPPV treatment.

Contributors
KM wrote the article. AC edited the article. IN designed this case and wrote the article.

Competing interests
None declared.

Patient consent
Obtained.

Provenance and peer review
Not commissioned; externally peer reviewed.

Open Access
This is an Open Access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited and the use is non-commercial. See: http://creativecommons.org/licenses/by-nc/4.0/

REFERENCES
