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

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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.



Figure 1 Lower lip ulcer against patient's teeth caused by non-invasive positive pressure ventilation pressure.



Figure 2 Ulcer penetrating the lower lip.

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.

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