CASE REPORT

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Treatment of home oxygen induced rhinitis: an unusual use for a nasal obturator*

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SUMMARY

Patients requiring home oxygen can experience drying and crusting of nasal mucosa. On occasion it can be severe causing significant discomfort. In this report we present such a case. To prevent nasal airflow and hence reduce symptoms the patient was fitted with a nasal obturator. The use of the nasal obturator resulted in a rapid resolution of her symptoms. In this case the use of the nasal obturator was reversible and a simple solution for the treatment of a difficult condition.

Key words: nasal obturator, oxygen-induced rhinitis, chronic obstructive pulmonary disease

INTRODUCTION

Home oxygen is recognized to cause occasional rhinitis due to its drying effect on nasal mucosa (Criner et al., 1999). On occasion this can be a particularly uncomfortable condition with crusting, bleeding and pain. The use of nasal obturators has been previously described in the treatment of rhinological conditions such as atrophic rhinitis (Lobo et al., 1998), Bernard Soulier Syndrome (Lobo et al., 1999) and Hereditary Haemorrhagic Telangiectasia (Woolford et al., 2002). Occluding a patient's nasal airway and preventing airflow can achieve significant improvement in the clinical condition of the patient.

CASE REPORT

A 55-year-old woman with chronic obstructive pulmonary disease utilising home oxygen via a facemask was referred to the otolaryngology clinic. She required a concentrated flow of 2 litres/minute of oxygen while using masked oxygen. The use of oxygen was as required or mainly when she slept at night. She complained of crusting and severe discomfort of her nasal cavity due to prolonged use of oxygen, symptoms she found very distressing. Examination revealed marked crusting and bleeding of her nasal mucosa. There was also erythema and tenderness of the nasal tip soft tissues. Despite treatment with oral antibiotics, application of Naseptin™ cream (Chlorhexidine hydrochloride 0.1% w/w and neomycin sulphate 0.5% w/w) and moisturising saline sprays there was no improvement.

She was then fitted with a nasal obturator (Figure 1). The patient would wear her oxygen mask in the normal fashion over her nose and hence nasal obturator. After a few weeks of regular use she reported dramatic improvement in her rhinological symptoms. The patient has been kept under regular review for her condition and currently remains asymptomatic. She continues to wear the obturator on a daily basis (Figure 2).

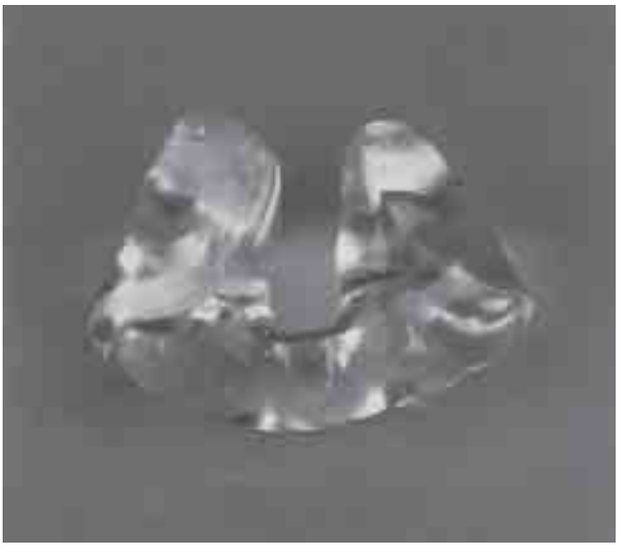

Figure 1. The Silastic™ nasal obturator.

Nasal obturator fitting

The method of fitting a nasal obturator is similar to a hearing aid mould. The end of each nasal vestibule is occluded with a plug of Otofoam-AK2 and an impression made. After the material has hardened it is sent for construction to a Silastic™ obturator by a mould manufacturer. The obturator is then worn in the nose such that both vestibules are occluded (Figure 2).

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Figure 2. Patient wearing the nasal obturator, with both nostrils occluded (Front view).

DISCUSSION

The nasal obturator simply serves to prevent airflow through the nasal cavity (Figure 3). In various other conditions (Lobo et al., 1998; Woolford et al., 2002) wearing an obturator has been shown to reduce mucosal drying. Consequently, associated symptoms such as crusting and bleeding are prevented. In the past, 'Young's procedure' was the recommended treatment for patients with intractable rhinological symptoms. This technique involves surgical closure of the vestibules to eliminate passage of nasal airflow. This procedure obviously produces permanent nasal obstruction which patients find unacceptable. Furthermore, any existing medical conditions of a patient may make use of general anaesthesia unsafe.

The advantage of the nasal obturator is that it can be removed from the patient's nose easily. Patients are therefore able to 'titrate' the use of the obturator by wearing it when necessary. They may choose not to wear the obturator depending on social circumstances and replace it when appropriate. The obturator can also be removed during meal times to optimise sensations of taste and smell, which will otherwise be limited with the device in place.

By using the nasal obturator our patient was able to successfully reduce her nasal symptoms. This device has proved to be a simple and effective treatment for a disturbing condition.

Figure 3. Patient wearing the nasal obturator (Lateral view).

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