



CORRESPONDENCE

A green oral appliance

To the Editors:

A patient presented with an oral appliance (OA) that was coated in a green residue (fig. 1). This has never been seen before in our sleep department, which has managed over 100 patients with OAs for snoring and mild obstructive sleep apnoea (OSA).



FIGURE 1. An oral appliance (OA) coated with a residue due to a build up of calcium stearate (right). A normal OA (left).

The patient had a diagnosis of mild OSA 2 months previously. After he was counselled regarding the treatment options, he decided to proceed with an OA (mandibular advancement device; SomnoGuard AP, Bensheim, Germany). Pre-treatment dental assessment was normal. During the first month of therapy he reported clinical improvement. Short-term adverse effects included excessive salivation and mild tooth pain, which resided after the first week. The patient observed the

formation of a green residue on his OA after 6 weeks and became noncompliant with the therapy due to tooth pain and gum irritation. After a detailed history the patient reported that he did not follow the recommended daily washing instructions for the device with a liquid denture cleaner. Instead he had been washing the OA in soapy water. Cultures of the residue for pathogenic bacteria and fungi were negative. Chemical testing of the residue using scanning electron microscopy with energy dispersive radiograph analysis and Fourier transform infrared spectroscopic analysis found that it was predominantly calcium stearate. Calcium stearate is an insoluble calcium salt of stearic and palmitic acids. It is formed when soap is mixed with "hard" water containing calcium ions. The presence of saliva calcium ions might also have contributed to the green residual formation.

To the best of our knowledge this side-effect after oral appliance use has never been reported before. However, a similar case was recently reported with a continuous positive airway pressure humidifier chamber [1]. Thorough oral appliance care after sleep is recommended in order to avoid such side-effects, which can reduce patient compliance.

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STATEMENT OF INTEREST

None declared.

REFERENCES

- 1 Tolson J, Rochford P, Worsnop C. A green humidifier chamber. *Eur Respir J* 2008; 32: 533.

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