the denture adhesive, the exact amount of zinc ingested could not be calculated nor could the amount of zinc absorbed in the small intestine as this can vary with zinc status.[4] However, in a week the patient was exposing himself to 2,040-4,080 mg of zinc. It is therefore feasible to propose that the patient could have been ingesting more than the 11 mg daily zinc allowance recommended by the National Institutes of Health (8 mg for women)[12] and perhaps even exceeding the tolerable upper intake level (ULa) of 40 mg per day.[4] Questioning on possible occupational exposure or use of vitamin supplements yielded no other possible source of the zinc.

He was advised to immediately change to a zinc-free denture adhesive and was started on copper supplementation. On review in November 2009 his symptoms, particularly sensory symptoms, had improved slightly, but he was still wheelchair-bound and catheterised and had very little power in his legs. In January 2011 the patient was still using a wheelchair and required a hoist at home. However, he reported an improvement in his weight and well-being and he had not suffered any new complication, specifically no new infection, since commencement of copper therapy.

SUMMARY

Our patient presented with copper deficiency myelopathy probably caused by excessive use of zinc-containing denture adhesive. Copper deficiency myelopathy has been recognised in animals as 'swayback' for many years,[6] but has only recently been recognised in humans, and even more recently the role of zinc containing adhesives has been described in several case reports.[1,2] While evidence remains at case report level and without being able to exactly determine the amount of ingested denture adhesive/absorbed zinc, the relationship between copper deficient myelopathy and zinc-containing denture adhesive remains a hypothesis. However, our patient's zinc levels improved on cessation of zinc-containing denture cream and extensive investigation ruled out other possible sources.

Considering the widespread use of denture cream across the world, the development of severe myelopathy does appear to be a rare occurrence. It is unclear whether there are predisposing factors in some patients. Some manufacturers have halted the production of zinc-containing adhesives;[13] however, clinicians still need to be aware of the condition, particularly in patients who present with clinical features of vitamin B12 deficiency but have normal vitamin B12 levels or do not respond to therapy.

There is very limited follow-up data available regarding the efficacy of copper replacement in patients with copper deficiency myelopathy, but available data suggest that while haematological symptoms may improve, neurological recovery is limited.[1,2,8,11] Prevention is therefore essential and dentists have an important role in educating patients about denture adhesive use. Dentists are well placed to identify patients who may be using zinc-containing denture adhesives to excess and who have anaemia or neurological symptoms affecting balance and walking. These patients should be referred for further investigation for early detection of zinc excess and copper deficiency before irreversible damage occurs.

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Erratum

CPD questions (*BDJ* 2011; **210:** 382)

CPD Article 1 – The effect of disposable infection control barriers and physical damage on the power output of light curing units and light curing tips

Question 1 should have read as follows:
What proportion of LCUs were affected by the long-term adherence of composite resin/bonding agent to the light tips?

A correction notice was placed on the BDJ Eastman CPD website as soon as the incorrect wording of this question was noticed.

We apologise for any inconvenience caused.