

Pathology in Focus

A silver tattoo of the nasal mucosa after silver nitrate cautery

FREDERICK MAYALL*, DAVID WILD†

Abstract

We report a silver tattoo of the nasal mucosa that occurred after silver nitrate cautery for nasal bleeding. This type of tattoo is a very rare potential mimic of melanoma and appears not to have been described before. It has similar features to an amalgam tattoo of the oral mucosa on histology and energy dispersive X-ray analysis (EDAX).

Key words: Nose; Turbinates; Silver nitrate; Cautery

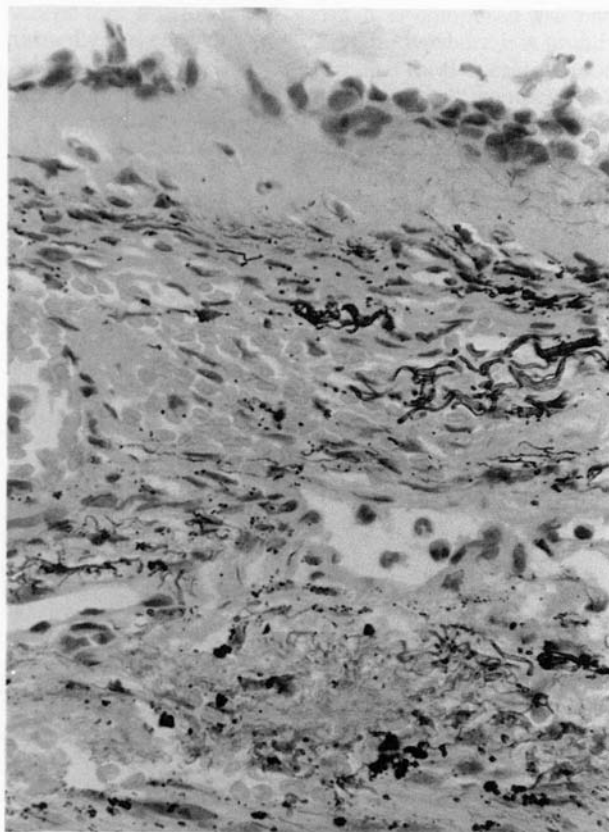


FIG. 1

Nasal mucosa including epithelium and underlying connective tissue. There are numerous fibres in the connective tissue that are coated with a dark pigment (H&E $\times 100$)

From the Department of Histopathology and Cytology*, Waikato Hospital, and The Waikato Microscopy Unit†, The Meat Research Institute, Hamilton, New Zealand.

Accepted for publication: 21 January 1996.

Case report

A 72-year-old woman who had an inflammatory nasal polyp of the right middle meatus was noticed to also have a dark pigmented lesion in the mucosa at the inferior margin of the right middle turbinate. This measured a few millimetres across and was biopsied. A specimen consisting of tissue up to 5 mm was obtained. Histology showed cartilage and nasal mucosa in which there was a dark pigment in the subepithelial connective tissue. The latter had a very striking pattern of distribution (Figure 1). It coated connective tissue fibres producing an appearance that was very reminiscent of an elastin stain. The latter is a histological stain that is used to demonstrate elastin fibres by the deposition of silver. Energy dispersive X-ray analysis (EDAX) was performed and the resulting

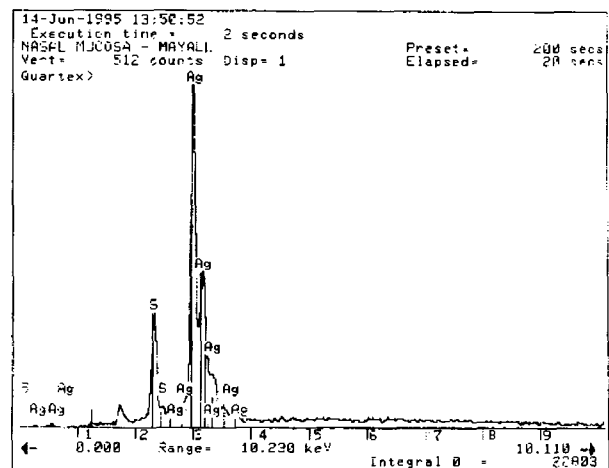


FIG. 2

An energy dispersive X-ray analysis (EDAX) spectrum from the lesion. This shows several peaks for silver (Ag).

spectrum (Figure 2) confirmed that the dark pigment was silver. A review of the clinical notes revealed that the patient had had silver nitrate cautery for nasal bleeding four years before.

Discussion

A silver tattoo of the nasal mucosa has not, to our knowledge, been described before. The histology of this lesion is very similar to that described in amalgam tattoos of the oral mucosa (Mayall *et al.*, 1992). The EDAX spectrum is also similar to that seen in an amalgam tattoo except that copper was not detected. Amalgam usually contains copper and also mercury although mercury does not seem to be retained in the tattoos. Silver tattoos have no particular pathological potential but they attract clinical anxiety because they are a mimic of melanoma. It is not certain why a silver tattoo occurred in our case as it is not a common outcome of silver nitrate cautery. It may be that the doctor using the cautery was particularly enthusiastic in our case or that some of the tip of the cautery stick became fragmented and was embedded in the mucosa.

In the oral cavity it is quite common for amalgam tattoos to be biopsied because of the difficulty in distinguishing them from melanomas. A similarly cautious practice should probably apply to pigmented lesions of the nasal

mucosa. Silver tattoos are a rare cause of nasal mucosal pigmentation even in those who have had silver nitrate cautery in the past.

Acknowledgement

The authors would like to acknowledge the assistance of the Department of Otolaryngology at Green Lane Hospital, Auckland, New Zealand.

Reference

Mayall, F. G., Hickman, J., Knight, L., Singhrao, S. (1992) An amalgam tattoo of the soft palate: a case report with energy dispersive X-ray analysis. *Journal of Laryngology and Otology* **106**: 834–835.

Address for correspondence:
Dr F. G. Mayall,
Department of Histopathology and Cytology,
Waikato Hospital,
Hamilton,
New Zealand.

Fax: 07 839 8759