

Scarring Alopecia Following Gold Therapy

Sir,

Gold compounds were first used as a treatment for rheumatoid arthritis in 1929 (1). Cutaneous reactions are the most frequent side-effects of gold therapy and occur in approximately 30–50% of patients with rheumatoid arthritis (2, 3). Lichenoid eruptions are well recognised although scalp involvement, as in our case, is an unusual feature.

CASE REPORT

A 73-year-old woman was under the care of the rheumatologists for rheumatoid arthritis, diagnosed 3 years previously. In 1989 she was started on auranofin 3 mg twice daily. Four months later, however, she developed a pruritic rash, described by her general practitioner as "eczematous", on her trunk, arms and scalp. The eruption was felt to be secondary to the auranofin which was therefore stopped, with complete resolution of symptoms within one month. Sulphasalazine (500 mg twice daily) was subsequently given but was stopped due to intolerable diarrhoea. Her arthritis remained active and she was therefore commenced on intramuscular sodium aurothiomalate; after a test dose of 10 mg she was maintained on 20 mg weekly. However, 3 months later she developed oral ulcers, a widespread erythematous, pruritic rash affecting her trunk and limbs and scaling of the scalp. This was associated with a peripheral blood eosinophil count of $1.36 \times 10^9/l$ (0.04–0.40), but no evidence of proteinuria. The gold was stopped as a further reaction was suspected. Four weeks later she was referred to a dermatologist and examination revealed numerous well-demarcated shallow ulcers on the tongue and an extensive cheilitis. Resolving erythema, with minimal scaling, was present symmetrically on the arms and legs. Diffuse hair loss was evident but in addition there were areas of scarring alopecia with follicular hyperkeratosis.

A skin biopsy from an affected area in the scalp showed hyperkeratosis and focal parakeratosis and thinning of the epidermis. A dense predominantly perifollicular chronic inflammatory infiltrate was present, with basal cell layer liquefaction degeneration and occasional Civatte bodies. Melanophages were present in the upper dermis and there was focal scarring. Direct immunofluorescence was negative.

Six months after stopping gold she developed further well-defined erythrosquamous plaques on her limbs. Histology from one of these lesions showed the classical histopathological features of lichen planus. Twelve months after withdrawal of the gold there was some improvement in the diffuse hair loss but with residual areas of scarring. Post-inflammatory hypopigmentation remains at the sites of previous involvement on her limbs.

DISCUSSION

Gold therapy is associated with a wide spectrum of cutaneous manifestations ranging from pruritus to exfoliative dermatitis. A non-specific pruritic rash is the most common reaction reported (3). However, Penneys et al. (4) noted that a lichenoid eruption was the most common identifiable rash and was seen in 11 out of 37 patients in their series. None of these patients had scalp involvement. Lichenoid eruptions may be seen in isolation or in combination with eczematous changes (4). Non-scarring alopecia is a well recognised but uncommon side-effect of gold

administration and may localise to the scalp or occur on the body (5–8). The temporal relationship, the eosinophilia and the presence of other clinical features of gold hypersensitivity in our case suggest that the scarring alopecia was related to the gold administration. However, rechallenge testing was not performed for ethical reasons.

The aetiology of lichen planus is still unclear, although it is likely that a cell-mediated immune response is "triggered" by an antigenic stimulus within the skin/mucosa (9). It has been suggested that lichenoid drug reactions may occur by unmasking the latent disease or by exacerbating pre-existing lichen planus rather than causing lichen planus de novo (10). Studies show that at least two immunological mechanisms, namely Type I and Type IV hypersensitivity, may be important in cutaneous reactions to gold (11). Further investigations are needed to delineate the categories into which the different cutaneous side-effects fall.

In summary, we report a patient who developed a lichenoid dermatitis with involvement of the scalp which resulted in scarring alopecia. Clinicians should be aware of this possible side-effect of gold therapy.

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