Case report

Another hazard of gold therapy?

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SUMMARY A patient with seropositive rheumatoid arthritis developed a bullous eruption localised to the jewellery areas 12 hours after a test dose of sodium aurothiomalate (Myocrisin). Investigation showed that she was allergic to nickel rather than gold. Small quantities of nickel were found in the Myocrisin solution after a short contact with a metal needle, suggesting an explanation for the reaction.

The systemic side effects of gold therapy are well known, but cutaneous contact reactions to metallic gold or its salts are extremely rare. Rennie¹ reported a patient who had a cutaneous reaction shortly following a test dose of intramuscular sodium aurothiomalate (Myocrisin). The reaction was localised to areas previously in contact with gold jewellery and there was a history of skin reactions to gold jewellery. It was concluded that systemic gold had activated a pre-existing contact dermatitis to metallic gold. We report another patient who presented with an acute bullous reaction localised to the 'jewellery areas' shortly following intramuscular Myocrisin. We present evidence that this may be due to nickel allergy rather than gold, which has important practical implications for the use of systemic gold.

Case report

A 37-year-old housewife had seropositive rheumatoid arthritis for 10 years. She was treated with a wide range of nonsteroidal anti-inflammatory drugs. It was later decided to start gold therapy, and she was given a test dose (10 mg) of intramuscular Myocrisin. Twelve hours later she developed a marked bullous eruption localised to both ear lobes, wedding-ring area, the opposing sides of both thumbs and index fingers, and the area in contact with the bracelet of her wrist watch (Fig. 1). The reaction settled spontaneously after 48 hours.

The patient gave a 9-year history of increasing

Fig. 1 Bullae in wedding-ring area.

skin reactions to gold rings and ear rings and to a metal watch-bracelet.

Skin biopsy of the wrist watch area 24 hours after the gold injection showed a large intraepidermal bulla with a marked polymorphonuclear and eosinophil infiltrate in the dermis. Direct and indirect immunofluorescence tests were negative.

Two months later patch tests were carried out and gave a positive reaction to 2.5% nickel sulphate. Patch tests to 1% aqueous gold chloride, gold leaf,

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wedding ring, and 1% Myocrisin were negative. Patch tests of 1% and 2% Myocrisin placed exactly over the sites of previous ballae on the wrist were negative.

Lymphocyte transformation tests were carried out at the same time to nickel sulphate, 2, 1, 0.5 and 0.25 µg/ml and Myocrisin 8, 4, 2, and 1 µg/ml. No significant transformation was found to either substance.

Small amounts of nickel were detected by spectrophotometry in Myocrisin solution after, but not before, contact with the standard 19 G intramuscular needle.

Discussion

The patient was almost certainly allergic to nickel prior to the injection of Myocrisin. This is consistent with reactions to gold jewellery, since this preparation may contain small quantities of nickel. Comprehensive patch testing did not demonstrate gold allergy. The negative lymphocyte transforma-

tion tests to nickel and gold illustrate the poor correlation with patch test results. The distribution of the eruption was in favour of nickel sensitivity.

Exacerbations of nickel contact dermatitis have been described after intravenous infusions due to elution of nickel from metal needles by the infusion fluid.² Our finding that small quantities of nickel are eluted from metal needles during short contact with Myocrisin suggests a similar mechanism. We think that care should be taken when giving intramuscular injections of Myocrisin to patients with nickel sensitivity.

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References

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