Cutaneous insulin allergy responsive to oral desensitisation and aspirin

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Abstract
A diabetic man with no previous history of allergy began to suffer itchy, painful swelling at the sites of injection after three months' treatment with bovine insulin. Insulin specific IgE concentrations (1.2-2.0 U/ml) were higher than in non-allergic diabetics (mean 0.4 (SD 0.06) U/ml) but lower than in most other patients allergic to insulin (1.0-19.0 U/ml). Standard approaches failed to overcome the allergic reaction, and four separate attempts at desensitisation were unsuccessful.

The patient was then given oral insulin 800 U thrice daily together with enteric coated aspirin 1300 mg thrice daily for one week, and subsequent desensitisation with neutral insulin injection was carried out successfully. On stopping the aspirin the original reactions returned, and aspirin was therefore reinstituted as a permanent part of treatment.

Whatever the mechanism in this patient, oral desensitisation and aspirin provided a simple method for treating a difficult condition.

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reactions when given either intradermally or subcutaneously. Insulin carrier media (Novo) did not induce a reaction.

Four separate attempts were made at desensitisation with parenteral insulin using either rapid or slow desensitisation schedules, but these were unsuccessful. Antihistamines (chlorpheniramine 4 mg four times daily by mouth or 5 mg subcutaneously with insulin injections; cimetidine 200 mg three times daily by mouth or 100 mg subcutaneously with insulin injections) and dexamethasone 0·5 mg with each injection for three days were without effect. Two days of prednisone 20 mg daily was without benefit. Long term, higher dose steroids were not given because of their likely effect on the diabetes and their unsuitability for long term management.

Finally, desensitisation was attempted using oral insulin together with non-steroidal anti-inflammatory agents to antagonise vascular mediators of the reaction. Regular insulin, 800 U by mouth three times daily before meals, and enteric coated aspirin (Rhusal, Roerig), 1300 mg three times daily, were given for one week. Desensitisation was then carried out successfully using neutral insulin (Actrapid MC). Over the next six months he had very occasional swellings at the site of injection without pain or itch. He then stopped aspirin voluntarily and within a few days the original allergic reactions returned. Aspirin 1300 mg twice daily again reduced reactions to once every one or two weeks and was continued permanently. Diabetic control assessed by home monitoring of capillary blood glucose values was excellent, with mean glucose concentrations of 7-8 mmol/l (126-144 mg/100 ml).

Comment
Cutaneous allergy to insulin resistant to standard desensitisation measures is rare. Although desensitisation by parenteral means has been widely used in patients sensitive to inhalant allergens, the oral approach to desensitisation has been much less studied. There is only trivial absorption of oral insulin, and desensitisation by this route may not require systemic absorption of the allergen. In our patient oral desensitisation alone proved insufficient to control the allergy, so that full control and long term remission was achieved only with the addition of aspirin. It is indeed uncertain whether oral desensitisation was necessary. Non-steroidal anti-inflammatory drugs have a broad range of action and might readily affect local vascular changes concerned in the allergic process and so explain the results seen in this patient. Whatever the mechanism, the present approach provided a simple method for treating a difficult clinical condition.

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References
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Retrospective diagnosis of congenital rubella

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Abstract
One hundred and five children and adolescents with impaired hearing and 19 with impaired vision underwent in vitro tests (lymphocyte responsiveness and serum antibody to rubella) for retrospective diagnosis of intrauterine rubella. Tests yielded results consistent with intrauterine rubella in 30 (29%) of the patients with impaired hearing but only one (5%) of those with impaired vision. In addition, the reported incidence (10·6%) of rubella as a cause of deafness was obtained by questioning parents before the tests. Of 27 patients with impaired hearing of unknown aetiology but reported rubella contact during the pregnancy, seven (26%) had test results consistent with intrauterine rubella.

The incidence of intrauterine rubella as a cause of deafness is probably underestimated when the diagnosis is based on the presence of several classic features.

Introduction
For over a century rubella (or German measles) was considered to be a mild disease. Then in 1941 the intrauterine effects of rubella were recognised.1 By 1943 maternal rubella during pregnancy was documented as being associated with deafness, blindness, heart disease, and other congenital malformations among infants.2 In 1969 Cooper et al3 estimated that the incidence of fetal damage after maternal infection in the first trimester of pregnancy was “in excess of 20%.” These results were confirmed by Miller et al,4 but the numbers in their study were small.

The diagnosis of intrauterine rubella is easy to confirm in infants born with several classic features of the disease.2 In other children affected by rubella the clinical diagnosis may be impossible, particularly in those infected late in pregnancy whose only clinical feature may be nerve deafness, which will not be diagnosed in infancy at a time when viral culture can offer confirmation.4

In 1979 Buimovici-Klien et al5 showed that lymphocyte transformation after stimulation with phytohaemagglutinin was significantly lower in children with congenital rubella than in healthy controls.6 Specific lymphocyte responses to purified rubella virus were absent or at least two times lower in children with congenital rubella than in immune controls. In 1981 workers at this laboratory investigated these claims. The results obtained led to the development of a useful diagnostic test, using readily available reagents, to measure the immunological responses to rubella virus antigens in vitro.8 Lymphocytes from...