others.[11–13] Here too the use of both major and minor determinants is preferable.[14] Unfortunately, minor determinants are not commercially available for diagnostic purposes.

Today, the only reliable tool for identifying true penicillin allergy is probably oral challenge. If the purpose is to identify IgE mediated reactions it is not necessary to perform prolonged oral challenge. The type 1 reaction appears after the first dose. Later reactions should be regarded as expressions of other underlying mechanisms.

In most children who have had symptoms in connection with treatment with oral penicillin the side effects are minor and the children can continue taking penicillin as prescribed. There are no contraindications for future penicillin treatment in connection with infections. The tendency to react to repeated courses of penicillin treatment seems to be influenced by factors such as age, type of reaction, and the time of the primary reaction during penicillin treatment. A heredity of allergic diseases does not seem to be of importance.

Severe reactions with symptoms of anaphylaxis, asthma, or Stevens-Johnson's syndrome are extremely rare, but in such cases the treatment should be stopped and the child should not be given penicillin again.

Urticaria, pruritus, and oedema of the joints and face are not uncommon side effects, especially not at the end of the treatment. In these cases type 1 allergic mechanisms are not involved. It may be advisable to interrupt the treatment, however, and to investigate the patient later with skin testing and oral challenge when no infection is present.

It may be concluded that the diagnosis of penicillin allergy in connection with treatment with oral penicillin in childhood is often over used and that a thorough investigation must be done before the diagnosis can be established.

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Commentary

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Most 'drug reactions' are diagnosed on presumption: the patient's history and their previous experiences; probabilities concerning the reputation of the medicine; and timing of its administration in a particular instance. With the penicillins the rashes are a prominent feature; the commonest are urticarial, perhaps even with blistering and some are vasculitic (measles like) perhaps with purpura. A general scarlet fever like diffuse reddening without lymphadenopathy, but with a later 'branny desquamation', may be seen and less commonly an eczematous, itchy rash with widespread scaling early in the efflorescence. Scaliness may also follow the more obviously vasculitic rashes while urticaria on microscopical examination may prove to show definite vasculitis.

As a student, I clerked a patient who died of pencillin anaphylaxis catastrophically suddenly; he had perished before the houseman and his clerk got to the bedside. In 33 years of practice I have seldom prescribed penicillin. But fatal anaphylactic shock is exceptionally rare with oral penicillin. Serum sickness is commoner and much more drawn out in its development—urticaria, pains in belly and joints, distressed breathing, and fainting. The urticaria may persist for months, waxing and waning. Recurrence of urticaria for which no cause is discovered, may be guessed to be due to exposure to minute quantities of penicillin or similar cross reacting substances in the diet or as aerosol. 'Side effects' of penicillin administration should be read as 'ill effects'.

Skin testing with the 'major determinant', the penicilloyl polylysine nucleus, and the 'minor determinants' had its time but the vogue has passed because it never was satisfactory and seldom expedient.

This paper evaluates a blood test, the fairly expensive radioallergosorbent test. If this were to be developed to be entirely reliable as a predictor of all penicillin allergy, then much of the mythology and speculation would be replaced by sound knowledge. At the moment, only allergy to the penicillin nucleus and not to the 'soup' of various and variable chemicals that are lumped together as 'minor determinants' can be accounted for. Risky rechallenge using the same penicillin or one that might be expected to cross react in patients with suspected allergy to satisfy academic or practical purposes would then be obsolete.

The precision of this paper is blurred by the inclusion of ampicillin, always considered by dermatologists to be a special case in which accidental rechallenges have long been noted to fail to produce the characteristic vasculitic or morbilliform eruption. Maybe the rash derives from destruction products of the 'bug' and not the 'drug'? The inclusion of cephalosporin and most particularly, erythromycin would not seem to be appropriate whereas the cloxacillins are cross reactive presumably through truly allergic mechanisms.

For the moment, if parent or child believes he is 'penicillin sensitive', I consider it bad doctor-patient practice to ignore their assessment of their observations and prudent to use an alternative antibiotic. So many doctors have their reputations besmirched for not listening to their patients and antibiotic prescribing has been the centre of so many of these conflicts.