308 Correspondence

Some children with cancer have repeated the test on more than 20 occasions as part of their follow up investigations and no important gastrointestinal symptoms have occurred.

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Sweat tests and flucloxacillin

Sir,

While being in agreement with Williams and colleagues that the use of isoxazolyl penicillins are not a contraindication to sweat testing,¹ I feel I should inject a note of caution based on my own experience.

Shortly after the original report of antibiotic interference with sweat chloride concentrations in cystic fibrosis,² I encountered a 6 month old boy with a severe chest infection and a history of several previous such episodes. The initial sweat chloride concentrations, using the Orion sweat chloride meter, were borderline at around 55 mmol/l, but were reproducible within the variability of the method (± 5 mmol/l at that time). Because of the strong clinical suspicion of cystic fibrosis, and because he was being treated with sodium cloxacillin, I performed several further tests in the following two weeks and observed a rise in sweat chloride to 120 mmol/l after withdrawal of the treatment. The subsequent progress of the disease in this child confirmed the diagnosis. The assays were all performed by myself, and I do not believe that I was observing spurious results as falsely low sweat chlorides are unusual artefacts with this method, and the technique we use is rigorously standardised to avoid this. There was also good agreement between duplicate readings at different sites on each occasion.

Since that occasion we have made a particular note of the treatment of tested children and have seen only one other similar case, in a child with cystic fibrosis who was on ampicillin at the time of first testing. We were unable to perform the repeat tests as often as in our first case, however, and I could not be so sure that technical problems did not affect this observation.

Thus in 15 years I have observed one case which is similar to that reported by Griffiths and Bull.² During this time we have performed approximately 3000 tests and

detected about 40 new cases of cystic fibrosis. I thus believe that although the phenomenon is clearly rare, it nevertheless exists. Furthermore I have heard anecdotally of other cases, though I cannot vouch for their credibility. Williams and colleagues are perhaps therefore a little too strong in their implication that the phenomenon does not exist just because they observed no cases in their small study population. It is also worth observing that the children in the original report and the children in my case were taking cloxacillin and not flucloxacillin.

As to the suggestion that cloxacillin may be substituted for chloride ion in the sweat,² were this to be on a mole for mole basis (which would be necessary to maintain electrochemical neutrality), then the amount in the sweat would exceed the dose given to the patient. It seems more likely that the drug, or a metabolite, acts in an idiosyncratic way in these patients to alter the process of secretion or reabsorption of sweat chloride. It is tempting to suggest that there may be an interesting line of research open to those workers who are currently involved in studies of the control of chloride ion transport in isolated cystic fibrosis glands.

I feel that while we should not refuse to perform sweat tests because a child is on antibiotics, it is good practice to delay the test until the child has recovered from the acute phase of the infection for which they have been prescribed. This avoids the common spurious results associated with poor sweating in pyrexial and dehydrated subjects, and avoids parental anxiety and awkward questions about tests that need to be repeated. Nevertheless where it is clinically desirable to clinch diagnoses in the acute phase, sweat tests should not be avoided. Interpretation should, however, be tempered by an awareness of drug interference, and fortified by other diagnostic strategies such as repeat sweat tests with simultaneous sodium and chloride analyses, or in young children by assay of serum immunoreactive trypsin. This latter assay (by courtesy of Dr A Heeley in Peterborough) has proved very useful, but we are fortunate in that the Scottish Guthrie card samples are retained in good storage conditions which allows retrospective neonatal assays to be performed.

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Rising asthma admissions and self referral

Sir,

In their paper Dr Storr and colleagues suggest that diagnostic transfer between asthma and bronchitis is not a