Cough plates for microbiological surveillance in cystic fibrosis

Regular surveillance of respiratory tract flora is integral to the routine management of children with cystic fibrosis. In children who are not regular sputum producers, cough swabs are often used as a substitute.¹ Maiya *et al*² suggest that cough plates are more sensitive than cough swabs, and preferred by children.

We attempted to validate the technique for use in our cystic fibrosis clinic. In total, 52 consecutive children attending the clinic had both cough swab and cough plate specimens taken, as well as sputum if produced. Three different plates were used (chocolate agar; cystine, lactose, electrolyte-deficient plate; and cepacia-selective agar) to cover major pathogens. Cough swabs were routinely inoculated onto seven plates in the laboratory. The children were asked to cough twice on to each plate while it was held 2 inches from the mouth. Cough swabs were obtained using a standard technique.¹ All specimens were obtained by the same physiotherapist. The tests were performed in random order (sealed envelope), including the order of use of the different cough plates.

In all, 50 paired specimens were obtained for cough plates and cough swabs (two were improperly labelled and were excluded). A total of 28 children produced sputum, of which 17 specimens cultured recognisable bacterial pathogens; 7 (41%) cough swabs and 7 (41%) cough plates had identical positive information. Two further sets of cough plates and cough swab identified one organism isolated from sputum (*Staphylococcus aureus*) but missed a second important pathogen (*Pseudomonas aeruginosa*).

In total, 22 specimens were taken from non-sputum-producing children. Seven positive cultures were present on cough swabs but none on cough plates. These included four isolates of *P aeruginosa* and three of *S aureus*.

Cough swabs had a higher sensitivity than previous reports (41% vs 34%–35%),^{1,2} but cough plates performed less well than the previous report (41% vs 80%).² In only two instances was the cough plate positive when the cough swab was negative (both in sputum producers). In non-sputum producers we missed seven clinically relevant isolates. Although the children preferred to use cough plates, we will continue to use cough swabs.

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Difficulties with the picture archive and communication system for the transferred patient

The gradual change of hospital radiology departments to a picture archive and communication system (PACS) has many proved advantages.^{1–3} However, in our experience, there are also considerable drawbacks. The issues of data storage and comparison of new with old films are recognised (failure to compare with prior films is one of the known risk factors for malpractice in radiology).⁴ In our experience, the difficulty in transferring images from a referring hospital to a tertiary care centre is worth noting. The apparent inability of each hospital's PACS to communicate with another and the lack of (obtainable) hard copies to send with transferred patients is proving to be a challenge.

Images can be transferred to a disk, but out of hours this is not always possible, and on numerous occasions our computer programs have failed to read the data, resulting in inaccessible images. In the field of neonatal surgery, the radiological progression of diseases such as necrotising enterocolitis is particularly important when considering whether operative intervention is required. The delay and potential need to repeat diagnostic imaging therefore has a deleterious effect on patient care. If imaging is repeated, there is additionally an unnecessary financial burden on the trust.

A potential alternative is to email images, with the patient identifiers removed, from the referring to the receiving clinician. However, these images are often suboptimal and cannot be manipulated—for example, if magnification is required. In addition, the data can be viewed only in the presence of the receiving clinician, which can be a problem with current shift systems.

We would be interested to hear other clinicians' solutions to this problem, which we hope will be solved in the long term by online access or interhospital data transfer strategies. However, recent reports of the difficulties in implementation of "Connecting for Health" suggest that this may not occur for some time.

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Reducing the burden of atopic dermatitis

The study of Moro *et al*¹ deals with the interesting question of whether there is any treatment that may prevent the development of allergy. Their main outcome is atopic dermatitis, where a group comparison between maltodextrin (placebo) and galacto/fructo-oligosaccharides (verum) showed an exact p value of 0.014, as reported in fig 2. I assume that they used a two-sided test for the cumulative incidence of atopic dermatitis, where a single-sided test may have been more appropriate, leading eventually to a p value of 0.008.

Showing the distribution of the Scoring Atopic Dermatitis Index in both treatment groups would nevertheless be interesting, as there is a high chance of confounding using inappropriate block randomisation by genetic risk. As we have shown earlier in this journal,² the risk by parental history of various allergic diseases is not interchangeable; in other words, a few more parents with atopic dermatitis (and/or the filaggrin gene variants) in the placebo group could also explain the observed effect. The authors have also not controlled for vitamin D supplementation, which has now been found in four independent studies to be associated with later allergy.³

Apart from that, the study raises some ethical questions. According to current law in Germany, advertisement of bottle feeding is prohibited without showing the alternative of breast feeding. In my opinion, a scientific study report also needs to clearly state that the investigators have (1) promoted the benefits and advantages of breast feeding; (2) facilitated breast feeding; (3) explained potential negative consequences of bottle feeding; and (4) detailed the difficulty in reversing any decision against breast feeding. As the mean age of the first bottle feeding is only 11 days in this study, the authors need to show (eg, from the preceding year in which they obtained the data for the power calculation) that this study has not prevented breast feeding and even induced more patients with atopic dermatitis than expected under non-observing conditions. Unfortunately, I could also not find this trial in the ClinicalTrials.gov database although registration is being endorsed by a statement from the International Committee of Medical Journal Editors. If these omissions could be clarified, the study could indicate a remarkable progress in the prevention of allergy.

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