

# Letters to the Editor

## *Streptococcus milleri* found in pulmonary empyemas and abscesses

I was very interested to read the letter of Dr Waitkins *et al* on the importance of *Streptococcus milleri*. We too isolate the organism from cases of empyema from time to time and would agree about the importance of *S milleri* in this context. Although we welcome this reminder about the pathogenicity of the organism, there is one aspect of the letter that could be misleading: *S milleri* apparently requires anaerobic conditions on primary isolation, but it is not an obligate anaerobe. The inclusion of this organism by the authors in the category of anaerobic streptococci implies that it is a true anaerobic coccus<sup>1</sup> and thus susceptible to metronidazole, whereas it is resistant to this agent.

The clinical importance of the non-anaerobic streptococci is not in doubt, but resulting infections must be treated with appropriate antibiotics. Metronidazole is not appropriate in this context and should not be used.

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### Reference

<sup>1</sup> Watt B, Jack EP. What are anaerobic cocci? *J Med Microbiol* 1977;10:461-8.

Dr Waitkins replies as follows:

I agree with the comments of Dr Watt. Of course *S milleri* is not strictly an anaerobe. I would, of course, hope that all clinical microbiological colleagues would know that *S milleri* is resistant to metronidazole.

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### Detection of rotavirus by latex agglutination

The recent paper by Moosai *et al* concerning the detection of rotavirus by latex aggluti-

nation reported some interesting observations.<sup>1</sup> In common with some previous reports,<sup>2</sup> which compared latex and electron microscopy, the authors reported an apparently similar specificity and sensitivity for five different methods, including electron microscopy, the reference method used to select the limited number of frozen and stored test samples. Other workers, using larger sample numbers, or samples more representative of those encountered in a routine clinical laboratory failed to obtain these absolute correlations.<sup>3</sup>

In this laboratory a survey of 120 faecal samples, mainly from infants, tested over two winters by enzyme linked immunoabsorbent assay (ELISA) using a polyclonal antihuman rotavirus antiserum (Dako Ltd, High Wycombe) and by latex agglutination (CRA-latex) using antiserum raised against calf rotavirus isolates (Rotalax, Orion Diagnostics, Finland) produced data to complement those of Moosai *et al*.<sup>1</sup>

When CRA-latex was compared with ELISA, which had previously shown good correlations with electron microscopy,<sup>3</sup> more than 9% (11 of 120) of our specimens gave conflicting results, and the specimens that reacted only weakly with the latex particles were extremely difficult to interpret, even by our most experienced observers. Immediate retesting of the specimens confirmed the discrepancies, but after freeze thawing three of the nine specimens that were originally positive by ELISA but negative by CRA-latex subsequently became positive by CRA-latex. As treatment with edetic acid or storage coincides with a loss of both infectivity and type specific antigens associated with the outer capsid layer,<sup>4</sup> an enhanced sensitivity to latex may be due to the exposure of further antigenic determinants after storage and freeze thawing.

Pretreatment of the samples with 0.005M edetic acid, however, showed that they already contained mostly incomplete particles as the sensitivity of the ELISA method was slightly enhanced, but there was no overall qualitative difference to the results. Like Moosai *et al* we concluded that in our hands Rotalax in its present form was unsuitable as a routine screening procedure or as a diagnostic method in a routine clinical laboratory without electron microscopy facilities.

In a second study of 69 samples from infants, however, which compared ELISA with another commercially available latex reagent (RotaScreen, Mercia Brocades, West Byfleet) prepared using human rotavirus isolates (HRA-latex), better correlations were obtained without recourse to modification of the manufacturers' protocol or reagents, and the agglutination was easily read by the naked eye within two minutes. Although there was a similar proportion of positive specimens (37 of 69 compared to 50 of 120) in both studies, only one specimen gave discrepant results (positive by ELISA, negative by LATEX) using HRA-latex, which was also negative by electron microscopy.

A final comparison of 38 specimens using all three methods (Table) included 10 out of 11 which gave discrepant results and 22 of 41 which gave positive results from the first study and confirmed the superiority of HRA-latex compared with CRA-latex. With the exception of one specimen that was singly positive by ELISA, the results given by HRA-latex concurred with those given by ELISA, but 17% of the specimens giving positive results by these methods were persistently negative by CRA-latex. Complete agreement between the use of HRA or CRA in ELISA, with CRA being as sensitive and

Table Comparison of ELISA, HRA-LATEX, and CRA-LATEX

ELISA	HRA-LATEX	CRA-LATEX		
		Positive	Negative	Total
Positive	Positive	25*	5**	30
Negative	Negative	1	6	7
Positive	Negative	0	1***	1
Total		26	12	38

\* = Includes three specimens that were positive by CRA-latex only after freeze-thawing.

\*\* = Three of three specimens tested were positive by electron-microscopy at the regional laboratory.

\*\*\* = Specimen was negative by electron microscopy at the regional laboratory.