antibody method is used and the stages are as follows:
1. Slides are fixed in Baker’s formol-calcium for 4 min and washed in phosphate-buffered saline (PBS).
2. Monoclonal antibody (15 μl) is applied to a 5 mm area, and the slides are left at room temperature in a humid chamber for 30 min.
3. They are washed in four changes of PBS over a period of 20 min.
4. Fluorescein isothiocyanate-labelled goat antimouse IgG (15 μl) (Meloy Laboratories) is applied and incubated as before for 30 min. A duplicate slide, to which primary antiserum has not been applied, is similarly treated.
5. Washing is repeated as in stage 3.
6. Slides are mounted in Bacto FA mounting fluid pH 7-2 (Difco) and sealed with Glyceel (Searle Diagnostic).

The preparations are examined immediately using either a Leitz Ortholux I microscope with 200 W mercury lamp or a Leitz Ortholux II with 50 W mercury lamp, or can be stored at +4°C for a considerable length of time, at least two weeks, before examination.

Results and comment

Examples of our results are shown in Figures (a) and (b). A ring-like pattern of fluorescence is obtained at this magnification. Figure (a) is an OKT8-reacted cytopsin of peripheral blood lymphoid cells from a known case of T prolymphocytic leukaemia of supressor type, whose lymphocytes had been kept in liquid nitrogen after her demise in 1979. Live cell staining showed 58% of cells to be positive with OKT8 while only 2-5% of cells were positive with OKT4. Figure (b) is an OKT8-reacted imprint from a lymph node “replaced” by a diffuse lymphocytic lymphoma of Mκ immunoglobulin type showing positive supressor T cells scattered through the negative larger lymphoma cells.

We have found this method satisfactory with the following antibodies: OKT3, OKT4, OKT6, OKT8, OKIal (Ortho Diagnostic Systems) and with anti J5 or CALLA which detects the common acute lymphoblastic leukaemia antigen (Coulter Clone). It is easy and quick to perform and the results are rapidly and reliably interpretable. In addition to its diagnostic advantages, the method allows a panel of slides to be kept at −70°C and therefore readily available for control of future tests.

Letters to the Editor

**Faecal carriage of group B streptococci**

The results of a study conducted at this laboratory show that, contrary to the findings of Islam and Thomas, not only type II, but a wide range of serotypes of group B streptococci (GBS) can be isolated from adult faeces. These include types I and III which are the serotypes most commonly implicated in neonatal infection.

Routine faecal samples (175) were studied. The first 94 specimens were homogenised in glycerol broth and stored at −20°C for up to three months, while the rest were dealt with immediately. A faecal suspension was made of 1 g of stool in 9 ml of glycerol broth or Ringer’s solution (1/10) or 1/1000) and 200 μl volumes of these served as inocula for surface viable counts. Two media were used: Islam’s starch serum agar and blood agar (Columbia agar base + 5% horse blood), both made selective by the addition of nalidixic acid 7·5 mg/l, polymyxin B 17 000 U/l and neomycin 2·125 mg/l (Oxoid Streptococcus Selective Supplement). In addition 1 ml of the initial faecal suspension was inoculated into Todd Hewitt Broth (BBL) containing the same antibiotic supplement, for enrichment culture, and after overnight incubation at 37°C this was subcultured on the same media. All plates were incubated overnight anaerobically at 37°C using the Gaspak system (BBL). Orange colonies on the Islam’s medium and β-haemolytic colonies on blood agar were serogrouped by coagglutination with the Phadebact system (Pharmacia). All isolates were confirmed as GBS and serotyped at the Streptococcus Reference Unit, Colindale.

Out of a total of 17 GBS isolated, 16 were detected by enrichment as compared to only 10 by direct culture. Viable counts in these 10 samples were in the range 4 × 10/g to 2·5 × 10/g. Seven specimens however, had counts of < 10/g. The quantitative technique could not detect counts below 5 × 10/g which suggests that in the seven carriers detected by enrichment alone viable counts were below this level. The overall isolation rate of 9·7% (Table 1) is comparable with previous studies: Islam and Thomas (4%), and Easmon et al (6%), although there was a much higher isolation rate from fresh samples (16%) as compared to frozen ones (4·3%). The numbers involved were too small for statistical significance, but it is possible that freezing may have reduced the recovery rate of GBS, especially as viable counts tended to be low.

A wide range of serotypes were detected (Table 2). Only two out of 15 isolates from adult faeces were type II strains, whereas 10 were either type I or III. The only other...
Letters to the Editor

Table 1 Isolation rate of group B streptococcus from faeces

<table>
<thead>
<tr>
<th>Source</th>
<th>No positive/No examined (%)</th>
<th>Frozen specimens</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total specimens</td>
<td>Fresh specimens</td>
</tr>
<tr>
<td>Males</td>
<td>11/108 (10-2)</td>
<td>8/48 (16-7)</td>
</tr>
<tr>
<td>Females</td>
<td>6/67 (9)</td>
<td>5/33 (15-2)</td>
</tr>
<tr>
<td>Total</td>
<td>17/175 (9-7)</td>
<td>13/81 (16)</td>
</tr>
</tbody>
</table>

Table 2 Distribution of group B streptococcal serotypes in faecal isolates

<table>
<thead>
<tr>
<th>No of faecal carriers</th>
<th>Serotype distributions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ia</td>
</tr>
<tr>
<td>Adult female</td>
<td>5</td>
</tr>
<tr>
<td>Female &lt; 16 yr</td>
<td>1</td>
</tr>
<tr>
<td>Adult male</td>
<td>10</td>
</tr>
<tr>
<td>Male &lt; 16 yr</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
</tr>
</tbody>
</table>

report of GBS serotypes in faecal samples is that of Islam and Thomas' who detected four type II strains in their series and suggested that type II may be the only resident gut flora in adults. Type II is an uncommon cause of serious neonatal infection, but serotypes I and III are much more frequently implicated (unpublished, PHLS Commun Dis Rep).

The isolation rate of GBS from both rectal and perianal swabs is much higher than from faeces. It may be that carriage is mainly limited to the perianal skin, which could contaminate rectal swabs, or alternatively, the rectum and anal canal may also be colonised. If the latter is true, it is surprising that faeces are not more often contaminated. In either case, it is impossible to be certain that GBS are gut commensals without examining stool specimens collected in such a way as to avoid contamination—for example, by sigmoidoscopy. Further studies are required.

Reference


Quality control terminology and some practical implications

The International Federation of Clinical Chemistry's (IFCC) approved recommendations on general principles and terminology on quality control has resolved several outstanding issues and significant among these appears to be the affirmation that the negative forms of the terms accuracy and precision should be used to describe the quantification of these parameters.

Though the measurement of imprecision never posed a problem, the generally accepted definition of accuracy—that is, agreement of results with the true value—and the premise that the true value was an unknowable entity, have resisted efforts at quantifying it directly. Recovery experiments hence became the generally acknowledged means of assessing inaccuracy and the IFCC has accepted this.

Whitehead published the rigidity of the aforementioned definition of accuracy by introducing a broader one—namely, the relationship of a set of results to the correct value, where the correct value is the best estimate of a quantity for a particular material using a defined analytical technique. As values can vary widely depending on the method used, this definition runs
Faecal carriage of group B streptococci.

C I Noble

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