Simplified method for the cultural diagnosis of gonorrhoea

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Description
A new simplified method which enables a rapid presumptive cultural diagnosis of gonorrhoea—the Ames detection kit or ‘Microcult GC’—has been devised. The kit consists of a small plastic container with a detachable lid, into which are set two buff-coloured squares (approx. 2×2 cm) of desiccated modified Thayer-Martin selective medium* adsorbed into a porous cellulose matrix, the whole being supplied dry and gamma-irradiated in a foil-lined sealed envelope.

After the end of the envelope has been cut off to remove the cassette, the squares are rehydrated by adding six drops of distilled water, and they are then inoculated with the material under test using a swab or a loop. The lid is replaced and the cassette restored to the foil envelope. A tablet of citric acid-sodium bicarbonate mixture is added to the packet before it is sealed by folding and firmly pressing the foil at the open end. The cassette is then incubated at 35–37°C for 24 to 48 hrs.

To identify Neisseria two strips impregnated with tetramethyl-paraphenelene diamine (oxidase reagent) are provided with each cassette. After 24 hrs one of these is firmly pressed for 3 to 5 sec. on one of the squares of medium and if Neisseria is present a blue colour will appear within 30 sec. on the buff-coloured surface. The result is then confirmed by a Gram-stained scraping of the blue area.†

If the result is negative, the cassette is restored to the incubator and the second square is tested at 48 hrs.

Preliminary results
The kit has been used in 177 male patients before treatment for either gonorrhoea or non-gonococcal urethritis based on a Gram-stained smear of the

*Containing amphotericin B, colistin, lincomycin, and Trimethoprim
†To exclude Pseudomonas

Results obtained with microcult GC

<table>
<thead>
<tr>
<th>Urethral Gram smear</th>
<th>Total</th>
<th>Trial culture 24 hrs (i.e. oxidase +)</th>
<th>Trial culture 48 hrs (i.e. oxidase +)</th>
<th>Gram smear from trial culture</th>
<th>Laboratory culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>102</td>
<td>99</td>
<td>3</td>
<td>—</td>
<td>3</td>
</tr>
<tr>
<td>Negative</td>
<td>75</td>
<td>3</td>
<td>72</td>
<td>—</td>
<td>72</td>
</tr>
<tr>
<td>Total</td>
<td>177</td>
<td>102</td>
<td>75</td>
<td>—</td>
<td>75</td>
</tr>
</tbody>
</table>

Conclusions
While further work is obviously needed to define more closely the limitations of the method, it would already appear to have potential for use:

1. In screening programmes in developing countries at present lacking cultural facilities: if cost precluded continued use it could provide valuable preliminary data defining target groups when planning control programmes;
2. For general practitioners of all countries in areas remote from laboratories, for which purpose small relatively cheap incubators are available;
3. To provide a simple means of checking on routine cultural performance in clinics of developed countries.

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