330 women delivered consecutively at the maternity hospital in Cambridge in 1978 were questioned after delivery and again at 3 months. The overall prevalence of breast feeding after delivery was 82%, and at 3 months, postpartum it was 46%. Initial choice of infant feeding was influenced by social class, with 86% of women from the nonmanual classes starting by breast feeding compared with 76% of manual class women.

The Table compares the prevalence of bottle feeding from delivery, bottle feeding at 3 months by those who began by breast feeding, and breast feeding at 3 months in smokers and nonsmokers. Smokers were less likely to attempt breast feeding than nonsmokers, and this achieves statistical significance in the group overall ($\chi^2 = 6.752, P<0.01$) and the manual classes ($\chi^2 = 6.389, P<0.02$). Furthermore mothers who smoked and began by breast feeding were more likely to have changed to bottle feeding by 3 months than mothers who did not smoke, and this achieves statistical significance in the nonmanual classes ($\chi^2 = 3.894, P<0.05$). Comparison of the mothers who began by bottle feeding with those who were breast feeding at 3 months shows that there were more smokers among the bottle feeders in the group overall ($\chi^2 = 15.494, P<0.001$) and in both the nonmanual ($\chi^2 = 4.657, P<0.05$) and manual classes ($\chi^2 = 5.26, P<0.05$).

<table>
<thead>
<tr>
<th>Social class</th>
<th>Total</th>
<th>Artificial feeding</th>
<th>Changed to artificial feeding by 3 months</th>
<th>Breast feeding at 3 months</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>Smokers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonmanual</td>
<td>18</td>
<td>5</td>
<td>28</td>
<td>6</td>
</tr>
<tr>
<td>Manual</td>
<td>26</td>
<td>11</td>
<td>42</td>
<td>11</td>
</tr>
<tr>
<td>Non-smokers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonmanual</td>
<td>117</td>
<td>14</td>
<td>12</td>
<td>28</td>
</tr>
<tr>
<td>Manual</td>
<td>69</td>
<td>12</td>
<td>17</td>
<td>37</td>
</tr>
</tbody>
</table>

There were, as might be expected (Capell, 1978), more (27%) smokers among the manual class mothers than among the nonmanual women (13%). The reasons for smokers being less inclined to breast feed and less likely to persist with breast feeding cannot be ascertained from this study. Smoking was not associated with any particular reason for giving up breast feeding. Nevertheless it appears that smoking by the mother is yet another factor which may influence the prevalence of breast feeding.

Circulating immune complexes in mucocutaneous lymph-node syndrome (Kawasaki disease)

Sir,
The clinical features of mucocutaneous lymph-node syndrome (MLNS) are well established (Kawasaki et al., 1974), but the aetiology is unknown. Fossard and Thompson (1977) described a Japanese child living in England in whom raised levels of circulating immune complexes by the platelet agglutination test were found early in the disease. Total haemolytic complement and $C_4$ were depressed although $C_3$ levels were normal.

Recently we have been able to confirm the abnormal immune complex findings in a 9-month-old Caucasian girl with MLNS. She presented with fever, rash, and stomatitis. After 3 days she became irritable and phobic; the rash became confluent and prominent over the palms and soles. Lumbar puncture and CAT scan were normal, and she showed no response to several antibiotics (erythromycin, fusidin, flucloxacillin, or ampicillin). Two weeks after the onset of symptoms she was admitted to this hospital where she was noted to have an erythema multiforme-like rash, marked cervical lymphadenopathy, stomatitis, nonpurulent conjunctivitis, puffy feet, and tachycardia. The skin at the fingertips had started to desquamate. She was mildly anaemic and had a leucocytosis. IgE was 44 IU/ml (normal) and total haemolytic complement and $C_4$ levels were also normal (155 and 124% of normal human serum respectively). Immune complexes containing IgG were raised (41.5% inhibition of IgG latex agglutination (Levinsky and Soothill, 1977): normal subjects <20%). Her illness resolved without further treatment and she was well when she was discharged home on the 43rd day.

Many of the clinical features of this disorder—such as arthralgia, rash, and myocarditis with coronary artery vasculitic changes—could well be due to immune complex deposition. However, raised levels of soluble immune complexes have been described in a variety of diseases and it is difficult to decide whether they are the cause or the result of the disease. Isolation and characterisation of the complexes in patients with this disorder may help to establish the aetiology of this strange disease.

References


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Thermometers and rectal perforations in the neonate

Sir,

The traumatic origin of many 'spontaneous' perforations of the alimentary canal is worthwhile emphasising (Archives, 1978, 53, 824). Two similar patients were reported previously from Great Ormond Street (Young, 1965) and were described at the Royal Society of Medicine. In the discussion that followed an experienced paediatrician commented, 'This seems to explain the reason why I have intermittent bursts of infants with rectal bleeding as, on reflection, this seems to occur each time we have a new batch of nurses in the nursery'. The presumed cause of this bleeding was from mucosal tear caused by the passage of a thermometer to the rectum.

Perforation of the rectum by thermometers or tubes is more common than reports suggest. Stomach tubes can also be implicated as the cause of some of the 'spontaneous' perforations of that organ.

In an article (Young, 1965), the importance of instruction to nurses was emphasised: 'Instruction to nurses on the anatomy of the rectum must be clear, and to take a rectal temperature the thermometer should be inserted into the anal canal and then advanced at an angle of 30° backwards, not straight into the rectum parallel to the cot as one so often sees'.

In the editorial comment on Frank and Brown's paper (Archives, 1978, 53, 824) your experienced paediatricians give no reasons for the perpetuation of the widespread practice of taking temperatures per rectum. Could we have the reasons for continuing this, or a clear statement that it does not have inherent merit and does have a small but definite risk?

Estimation of gestational age at birth—comparison of two methods

Sir,

The Short Report by Serfontein and Jaroszwicz (Archives, 1978, 53, 509) in which the method of Robinson for estimating gestational age was compared with that of Dubowitz contains several errors in both methodology and inference.

After regressing the Robinson gestational age on that by the Dubowitz method they state that 'the 95% confidence interval for a single estimation of gestational age . . . is + 1 week'. (It is curious that this figure is only given to one significant figure whereas the slope of their regression line has 3 and the intercept 7). Confidence intervals derived from regression lines are smallest at the mean (of X) and increase as X gets further from the mean. It is not possible to give a single figure, in this case + 1 week, for the 95% confidence limits for a single estimation of gestational age. Furthermore, their figure of + 1 week looks surprisingly small, even assuming it refers to the confidence limits at the mean. In any case, since the objective was to see if Robinson's method could replace the Dubowitz method, the Dubowitz age should have been regressed on the Robinson age; that is, the regression should have been performed the other way round.

The authors state that the Robinson method compares 'very favourably' with the Dubowitz scoring system. This vague statement is presumably based on the observed correlation between the two sets of gestational ages of 0-85. A correlation of this magnitude means that one method explains less than three-quarters (0-85%) of the variability of the other, which in this context is not especially good. They then say that 'both (methods) were found to be accurate between the ages of 29 and 37 weeks', and it is stated that all the mothers were reasonably sure of the dates of their last menstrual periods. However, definitions of 'accurate' and 'reasonably sure' are not given, and no comparison is presented between the true gestational ages and those calculated by either of the two methods under discussion, so that the assertion about accuracy is unsupported.

A final criticism, concerning the design of their investigation, is that it appears that each assessment was carried out by a different person. If this is so, any inherent differences between the two observers are confounded with differences between the two methods, so that the two effects cannot be separated and it is impossible to make a true comparison.

The question which the authors should be asking is 'Do the two methods give comparable results?' and the