

they enter puberty.⁶ Administration of testosterone before tests of growth hormone secretion are performed may separate those with temporary growth hormone deficiency from boys with true growth hormone deficiency,⁶ who are in any case much shorter than the patients we are treating. We have not, at present, investigated the mechanism of action of oxandrolone but it is clear that we are observing a definite effect of treatment. Boys with testicular volumes of less than 12 ml do not suddenly double their growth velocity over a three month period. The triggering of a sustained growth spurt in individual cases is most impressive.

Oxandrolone has been available for the last two decades but it does not have a product licence in the United Kingdom. We submit that for the purposes we have defined, it would be an important addition to the therapeutic armamentarium.

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Candida in mouth or on dummy?

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SUMMARY Mouth and dummy swabs for *Candida* spp. were obtained from 100 children under 18 months old admitted with acute medical conditions. Forty four per cent of dummies were colonised by *Candida* spp. Children who sucked dummies had clinical thrush and positive mouth swabs for candida more frequently than those who did not.

Many infants use dummies routinely in the first years of life. Spence *et al*¹ recorded the habit in 62% of 967 infants but felt this percentage was probably an underestimate. They were unable to show a relation between the use of dummies and infantile infection but the contribution of dummy sucking to childhood infection has been studied little. We have reviewed the relation between dummy sucking and the presence of a potential pathogenic candida in the mouths of young children.

Methods

A swab from the dorsum of the tongue and the inside of the cheeks was obtained from each of 100 children less than 18 months old admitted to the Royal Liverpool Children's Hospital with acute

medical conditions. Dummies were sampled using swabs moistened with sterile saline. Mouth and dummy swabs were spread on Sabouraud's medium and incubated at 37°C for 24 to 48 hours. Colonies were identified as *Candida albicans* by Gram stain and a positive germ tube reaction. Germ tube negative strains were identified using the API-Zym system (API Products). Children were allowed to continue sucking their dummies if this was comforting. Further mouth and dummy swabs were obtained twice weekly during each child's admission.

Results

Sixty six children sucked a dummy regularly and 34 did not. There was no significant difference in age, sex, gestational age at birth, or method of feeding between those who sucked dummies and those who did not. Similarly, there was no social class difference between the two groups. Medical admissions to this hospital come predominantly from a deprived urban area with a high rate of unemployment.

Seven children had clinical oral thrush (all *C albicans*). Six of these children sucked dummies and positive dummy cultures were obtained from all but one of this group.

Thirty six children who sucked dummies had

positive mouth cultures (31 *C albicans*, five *C parapsilosis*) and in 25 of these dummy cultures also grew candida (20 *C albicans*, five *C parapsilosis*). Only eight children without dummies had candida positive mouth cultures (using Yates' correction: $\chi^2=7.5$ $P<0.01$). Only four of the children using dummies who had negative mouth swabs had positive dummy cultures.

Ten children who used dummies had mouth swabs which were positive for candida on more than two occasions (repeatedly positive) and dummy cultures were also repeatedly positive for all except one of these children. No child who did not suck a dummy had repeatedly positive mouth swabs.

Discussion

Our study suggests that dummy sucking in early childhood is associated with greater prevalence of thrush and with more frequent and more persistent mouth colonisation by candida. Where candida is present in the mouth, it is usually cultured from the dummy also. Objects placed in the mouth are likely to reflect oral flora but we were surprised that dummy sucking predisposed to oral colonisation and infection with candida.

Candida is a common mouth commensal and its prevalence in our study is no more than that found in other studies.^{2,3} Positive cultures may reflect the density as well as the prevalence of candida colonisation. Thus our finding of a greater prevalence of Candida in the mouths of children with dummies may indicate either an absolute increase in prevalence of colonisation or, possibly, denser colonisation. Low density colonisation may explain why the

correlation between dummy and mouth cultures in children who used dummies was not total. The finding of clinical thrush in only a minority of infants with positive mouth swabs suggests that gastrointestinal contamination from dummies should be considered in infants with candida napkin rash when there is no clinical evidence for oral thrush.

Foreign bodies in the mouth such as dummies and false teeth⁴ predispose to candidal infection. Abramovits⁵ described a child in whom oral thrush did not respond to treatment until the child's dummy was confiscated. Our study also suggests that persistent oral and dummy infection go together. The dummy's role as pacifier may be more important to mothers than its aesthetic and health disadvantages. If this is the case, mothers need advice on effective treatment for infected dummies as well as for their children's thrush.

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Septicaemic low birthweight neonates treated with human antibodies to endotoxin

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SUMMARY In a double blind controlled study antilipopolysaccharide gammaglobulin given intramuscularly did not reduce mortality in low birthweight babies suffering from septicaemia. It did, however, reduce the recovery period of survivors from 310 to 120 hours.

Antimicrobial agents frequently fail in the treatment of Gram negative septicaemia, in part because they do not inactivate circulating endotoxins.¹ Adults suffering from Gram negative bacteraemia and shock have successfully been treated with an intravenous antiserum to endotoxin.¹

Since the production of intravenous gammaglobulin is difficult, an intramuscular lipopolysaccharide