- 7 Berry GT, Nissim I, Lin Z, Mazur AT, Gibson JB, Segal S. Endogenous synthesis of galactose in normal men and patients with hereditary galactosaemia. *Lancet* 1995;**346**: 1073–4.
- 8 Kingsley DM, Krieger M, Holton JB. Structure and function of low-density-lipoprotein receptors in epimerase-deficient galactosemia [letter]. *N Engl J Med* 1986;**314**: 1257–8.
- 9 Jaeken J, Pirard M, Adamowicz M, Pronicka E, Van Schaftingen E. Inhibition of phosphomannose isomerase by fructose 1-phosphate: an explanation for defective N-glycosylation in hereditary fructose intolerance. *Pediatr Res* 1996;**40**:764–6.
- 10 Daude N, Gallaher TK, Zeschnick M, et al. Molecular cloning, characterization, and mapping of a full-length cDNA encoding human UDP-galactose 4'-epimerase. *Biochem Mol Med* 1995;**56**:1–7.
- 11 Maceratesi P, Daude N, Dallapiccola B, et al. Human UDP-galactose 4' epimerase (GALE) gene and identification of five missense mutations in patients with epimerase-deficiency galactosemia. *Mol Genet Metab* 1998;**63**:26–30.
- 12 Wohlers TM, Christacos NC, Harreman MT, Fridovich-Kiel JL. Identification and characterization of a mutation in the human UDP-galactose-4-epimerase gene associated with generalized epimerase-deficiency galactosaemia. *Am J Hum Genet*. [In press.]

Xylitol and acute otitis media

Xylitol is used as an artificial sweetener and its use prevents dental caries, not only by replacing sucrose but also by inhibiting *Streptococcus mutans*. Paediatricians in Finland found that xylitol also inhibited the growth of pneumococci, and in a 1996 *BMJ* paper they showed that xylitol chewing gum reduced the occurrence of otitis media in children old enough to chew it. Now they have compared xylitol syrup, lozenges, and gum with placebos in younger children (Matti Uhari and colleagues. *Pediatrics* 1998;**102**:879–84).

The study included 857 healthy children aged from 7 months to 7 years attending day care centres. Those old enough to chew safely were randomly assigned to xylitol or placebo, chewing gum or lozenges. The younger ones were randomised to xylitol or placebo syrup. Over a trial period of three months the incidence of acute otitis media was reduced by 30% with xylitol syrup, by 40% with chewing gum, and by 20% with lozenges, compared with the placebo groups. There were similar reductions in the use of antibiotics.

Commentators (Ibid: 971–2 and 974–5) caution against rushing into the widespread administration of xylitol to children. Their reasons are both theoretical (the dose needed for young children could cause gastrointestinal upset, its safety is not established, and the long term effectiveness is uncertain) and pragmatic (the minimal effective dose is not known (it was given five times daily in the trial) and there are no suitable preparations available in the USA). The way in which xylitol produces this effect is far from clear. An antipneumococcal action does not seem to be a full explanation.

It seems unlikely that xylitol treatment of all children will be either practicable or desirable but further work could show it to be beneficial for those with recurrent acute otitis media. The associated decrease in antibiotic use is attractive in view of present concerns about antibiotic resistance.

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