

## Doctors and children's teeth

Only older doctors can now remember the state of patients' teeth before the introduction of the NHS. Dirty mouths with nothing but smelly, rotten stumps are a thing of the past. Dentists have met much of the demand for repairs and replacements, and have brought about a remarkable change in the dental health of the average adult—even though the incidence of both caries and periodontal disease would not be considered tolerable for other preventable conditions. Sadly, the improvement in children's teeth has been much less, and a joint report<sup>1</sup> by the British Paediatric Association and the British Paedodontic Society has drawn attention, once again, to the ways their dental health could be improved.

Doctors seem reluctant to play any part in the dental care of their young patients, yet the GP has a greater opportunity to monitor the young child's dentition than the dentist. Only the children of parents who understand the value of regular dental care are taken to the dentist. Once a child goes to school the community dental service should arrange a yearly dental inspection to uncover the need for treatment. As the report points out, however, many children may not be having an annual inspection: the number of dental officers in the service is falling—and where manpower is short, time might be best spent on treatment.

What part, then, can the general practitioner play? Firstly, he can educate parents. Doctors should look at their pregnant patients' teeth and ask them if they attend a dentist regularly. If not, they should emphasise the value of early detection of cavities and periodontal disease, together with the importance of a high standard of oral hygiene during pregnancy to avoid gingivitis. Especially during a first pregnancy mothers are amenable to advice about their unborn child's welfare. Indeed, organisers of antenatal classes should find a local dentist to talk to mothers-to-be during the course.

The preschool child is the one most at risk. Whenever a doctor sees a child he should look at the teeth before inspecting the throat. Fingers make much better cheek retractors for this purpose than a tongue spatula and are much less uncomfortable for the patient. Large carious cavities are easy to spot even without the dentist's expert eye. The difference between a clean, well-cared-for mouth and one with plaque and materia alba clinging to the teeth and producing inflamed gums is also obvious. But we should not be too harsh with the parents. Mothers may be more apprehensive than doctors about putting their fingers in a young child's mouth to look at the teeth.

The third way doctors can help is through instruction on oral hygiene. When the teeth first appear they should be cleaned every evening with a patent "bud" dipped in water. By 18 months there should be enough teeth to clean them with a small, soft, children's toothbrush and a small amount of children's toothpaste. At 3 years a child should be making the first visit to the dentist. Once the child can feed itself with skill the time has come to teach the use of a toothbrush. The parents' supervision will be necessary until the child is about 8 years of age, but children learn surprisingly quickly. Cleaning the teeth is most important after the last food and drink at night, but the habit of brushing them after breakfast should also be established. The parents' example is good not only for the child but also for the parents. Regular tooth cleaning will not entirely prevent caries, particularly in pits and fissures or at the point of contact between the teeth, but it will reduce the incidence. What is more, it will prevent chronic marginal gingivitis, which if unchecked will lead to the loss of all the teeth in middle age.

Like the dentist, a doctor who looks regularly at the mouth of his young patients will soon become familiar with the normal development of the dentition. He should also learn the normal times of eruption. These vary substantially, but both precocious and delayed eruption are worthy of further investigation. Failure of a single tooth to erupt may be due to a cyst or supernumerary tooth. Parents should be urged to seek early advice if the teeth are irregular—another way the doctor can help.

Dental crowding may merely be a stage in development, but calls for expert dental advice. Some children are more conscious than their parents of their ugly teeth, but by the time they are old enough to take independent action it may be too late. Substantial disproportion in jaw size and other jaw deformities are usually amenable to correction by oral surgery. This may be delayed until late adolescence, but preparatory orthodontics may be necessary earlier on. Prominent front teeth, or a large chin, may be part of the stock-in-trade of a comedian, but can cause real distress.

Doctors can also help by preaching dietary discipline. The pitfalls are snacks between meals and a taste for sugar. Regular, satisfying meals reduce the desire to eat between meals. Moderate sweetening of food and drink is reasonable; but excessive sweetening, particularly of nursery foods, leads to a taste for sugary foods. Children need not forgo sweets entirely. Least damage will be done if they are allowed controlled quantities

at the end of a main meal, and preferably only once a day. It is the almost continuous exposure of the plaque on teeth to fermentable carbohydrate that leads to rampant caries. Sweeteners on dummies and minifeeders containing sweetened solutions can devastate a small child's dentition. The gifts of sweet-giving friends and sugary "pop" are as dangerous for older children. Regrettably, many drugs are made up in paediatric mixtures containing high concentrations of sugar. This may not matter for the child who needs an occasional course of treatment, but it can be harmful for children on regular medication.

General practitioners may be asked about the value and safety of water fluoridation. Neither is in doubt. The toxicology of fluoride is extensively documented and few other subjects have been so fully investigated. Fluoridation of water is by far the simplest and safest way of providing the necessary small doses of fluoride, particularly for children. Incorporation of the right amount of fluoride in the teeth does not protect against the effects of excessive sugar, but it will reduce the number of cavities at an age when their repair is not easy. To maintain the beneficial effect through adult life the concentration of fluoride in the surface enamel must be maintained. Fluoride toothpaste used regularly will do this. Plain toothpaste should be changed to fluoride toothpaste as soon as the child can rinse and spit without swallowing.

Finally, doctors can help to save fractured teeth. A fractured or subluxated tooth is an emergency. If treated within hours most can be saved. Neglected for even a day or two, many will be lost.

<sup>1</sup> British Paediatric Association and British Paediatric Society, *The Dental Health of Children*. London, British Paediatric Association, 1979.

## Diagnosis of cholestasis

Some spectacular progress has been made in gastroenterology as a result of the invention and development of fibreoptic endoscopy, ultrasonography, and, more recently, computerised tomography. One topic of change is the diagnosis of cholestatic jaundice. Though its cause can often be diagnosed on the basis of a careful history and examination, the differing managements of intrahepatic and extrahepatic cholestasis make early proof of diagnosis essential. Conventional blood tests will usually confirm the presence of cholestasis, but they provide little and often misleading information about its cause. Newer tests such as estimating the serum concentrations of bile acids and lipoprotein X have proved equally disappointing.

Various procedures have been devised to help in diagnosis, including percutaneous transhepatic cholangiography (PTC), endoscopic retrograde cholangiopancreatography (ERCP), and grey-scale ultrasonography. Of these, ultrasound scores high on safety and simplicity, and its relative cheapness adds to its attractions. Nevertheless, it is a new procedure and still under evaluation. In one series of 26 cases of cholestasis studied consecutively<sup>1</sup> extrahepatic "surgical" obstruction was diagnosed ultrasonically in nine out of 10 cases, and intrahepatic "medical" causes were found in all 14 others (with two failures of examination). This report laid particular emphasis on the importance of gall-bladder dilatation; absence of this sign was misleading in only one patient. Stones in the gall bladder were an incidental finding in several cases.

In another small series<sup>2</sup> of grey-scale ultrasonograms in cholestasis, dilated ducts were found in eight out of 13 cases with extrahepatic obstruction, and there were no false-positive reports of dilatation of the ducts in seven cases with intrahepatic cholestasis. A larger and more fully documented study<sup>3</sup> of 143 jaundiced patients examined consecutively found that the size of the bile ducts could be estimated in 74% of 82 surgical and 38% of 61 medical cases. Nevertheless, 10% of the results were non-conclusive, often because of earlier biliary surgery. More disturbing was the finding that in 10% of patients with surgically remediable obstruction (mostly sclerosing cholangitis) there was no dilatation of the bile ducts. Nevertheless, in 22% of cases grey-scale ultrasonography was the only diagnostic procedure considered necessary.

A more recent series of 55 consecutive patients yielded some apparently better results.<sup>4</sup> There was only one technical failure, and the calibre of the bile ducts was incorrectly reported in a further case. All 14 cases with intrahepatic cholestasis were identified correctly, with complete diagnosis in four patients with cirrhosis and one with liver metastases. There were 41 patients with extrahepatic obstruction and a complete diagnosis was made in 23 of these. By no means all of these patients had dilatation of the biliary tract: only five out of 14 patients considered to have obstructive jaundice secondary to gall stones had dilated bile ducts, and in five others the presence of stones in the gall bladder alone was taken as indicating the diagnosis. This is a crucial point, since the authors recommend surgical procedures without recourse to PTC or ERCP for such patients—a policy that cannot be condoned, because not only are gall stones very common, but their frequency is doubled in cirrhosis,<sup>5</sup> and they will often be entirely incidental to the cause of jaundice.

If dilated ducts are detected then PTC should confirm extrahepatic obstruction in 90–100% of patients.<sup>6</sup> Failure with this procedure strongly suggests a non-surgical lesion. Nevertheless, even the fine Chiba needle technique carries appreciable complication (2.6–5.0%) and mortality rates (0.25%); these rates are similar to those with the older sheathed needle. Lack of urgency in arranging surgery may be one factor in this morbidity and mortality. In expert hands ERCP will provide a diagnosis of the presence of cholestatic jaundice in 90% of cases<sup>7</sup>; but the technique is difficult to master and the failure rate is 13–62%, with a complication rate of 2–15% and a mortality rate of 0.1–2%.<sup>7, 8</sup>

If there is no evidence of duct dilatation or choledocholithiasis, and blood coagulation is normal, then liver biopsy is appropriate and safe to establish the diagnosis. In cases of doubt a repeat ultrasonogram carries no hazard apart from possible delays.

With increasing skill ultrasonography may eventually become the crucial investigation in patients with suspected extrahepatic obstruction, giving complete diagnosis without the need for invasive tests. At present it should be regarded as a preliminary screening test before cholangiography or biopsy.<sup>9</sup>

<sup>1</sup> Vicary, F R, *et al*, *Gut*, 1977, **18**, 161.

<sup>2</sup> Morris, A H, *et al*, *Gut*, 1978, **19**, 685.

<sup>3</sup> Sample, W F, *et al*, *Radiology*, 1978, **128**, 719.

<sup>4</sup> Vallon, A G, Lees, W R, and Cotton, P B, *Gut*, 1979, **20**, 51.

<sup>5</sup> Bouchier, I A D, *Gut*, 1969, **10**, 705.

<sup>6</sup> Elias, E, *Gut*, 1976, **17**, 801.

<sup>7</sup> Cotton, P B, *Gut*, 1977, **18**, 316.

<sup>8</sup> Bilbao, M K, *et al*, *Gastroenterology*, 1976, **70**, 314.

<sup>9</sup> Taylor, K J W, and Resenfield, A T, *Clinics in Gastroenterology*, 1978, **7**, 488.