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Paediatric dentistry

Provision of atraumatic restorative treatment (ART) restorations to Chinese pre-school children — a 30-month evaluation

Lo ECM, Holmgren CJ
Int J Paediatr Dent 2001; 11: 3-10

This approach to restorative dentistry in children may have advantages for developing nations.

In a kindergarten in southern China, 95 children (mean age 5.1 years) had 170 ART restorations placed without LA by 7 final-year dental students under supervision. Teeth with caries into dentine were treated with hand instruments to remove caries and glass ionomer restorations were placed. Each child was supine on a table and a portable light was used. Teeth were isolated with cotton rolls.

Initially, 129 children were examined, 32 did not need treatment, and one proved uncooperative. Most had no previous dental experience. When asked subsequently, 93% of children said they had felt no pain, and 86% were prepared to receive similar treatment again. The mean time taken to place different types of restoration varied from 9 min for Class III, IV and V to 13 min for Class II. The mean cost per restoration was 30p, of which half was the cost of the material.

Up to 18 months, 91% of restorations were followed, and to 30 months, 68%. At 12 and 30 months, 91% and 79% of Class I restorations were intact; for Class II and Classes III and IV, the success rates were respectively 75% and 51%, and 33% and 25%.

Prosthodontics; behavioural science

Correlation between quality of life and denture satisfaction in elderly complete denture wearers

Yoshida M, Sato Y et al.
Int J Prosthodont 2001; 14: 77-80

Elderly people who are satisfied with life are also satisfied with their dentures.

Quality of life (QOL) was assessed for 2079 elderly people on the basis of 8 factors (eating, smooth communication, physical comfort, aging, loneliness, job and hobbies, meaningfulness, social life, economic problems) selected by regression analysis from 13 original factors. From subjects who had worn complete upper and lower dentures, 84 were selected who had worn them a mean 9.1 yrs. These subjects responded to a series of questions on denture satisfaction.

On a scale of 0–100, the mean scores relating QOL to overall satisfaction with life were: dissatisfied, 38; satisfied, 57; and well satisfied, 82. There was a positive association between QOL and denture satisfaction ($r = 0.27$; $P < 0.05$). The authors comment

that previous studies have not shown that providing improved dentures increases QOL. Therefore it may be that patients with a greater QOL (determined by other factors) will also show greater denture satisfaction.

Developmental pathology

A review of clinical features in 13 cases of impacted primary teeth

Otsuka Y, Mitomi T et al.
Int J Paediatr Dent 2001; 11: 57-63

Impaction of primary teeth may be associated with defects in permanent successors.

Impaction of primary teeth is rare and may be associated with a variety of factors, including odontogenic tumours, ankylosis, trauma and dentigerous cysts. The most frequently involved primary teeth are second molars and central incisors. This study concerns 13 children with 14 impacted teeth diagnosed from 1979–1997 at a Japanese clinic. The age range was 1.2–7.5 yrs, and 5 were boys. Seven teeth were second molars, 4 were central incisors, 2 were canines, and one a lateral incisor.

Five impactions were due to odontomas, 3 to myxofibrous hyperplasia, 2 each to ameloblastic fibroma and abnormal eruption direction, and no cause was apparent in 2 cases. Treatment was with extraction in 4 cases where there was no likelihood of normal eruption, and surgery in the remainder, with 9 erupting, one after traction. In more than half the permanent successors there was malalignment, frequently through rotation. One tooth was hypoplastic, and another was missing.

Preventive dentistry

Reversal of primary root caries using dentifrices containing 5,000 and 1,100 ppm fluoride

Baysan A, Lynch E et al.
Caries Res 2001; 35: 41-46

Remineralization was a frequent outcome after 6 months and was significantly greater with the higher concentration of fluoride.

Two dentifrices with the specified concentrations of fluoride were randomly allocated to 201 subjects, each of whom had at least one primary root caries lesion (PRCL). Clinical (hardness, cavitation, dimensions, colour and plaque) and electrical resistance caries monitoring was performed at 3 and 6 months, and 15 subjects dropped out over the period of the double-blind trial. In the 5,000 ppm group, 107 subjects started with 130 lesions. In the 1,100 ppm group, 94 subjects started with 132 lesions.

At 3 months, 47 of 125 lesions examined at all visits had become hard in the 5,000 ppm group, and 13 of 117 in the 1,100 ppm group. At 6 months, respective figures were 65 and 30. Lesions with cavitation were less likely to become hard, which the authors suggest might be due to a lesser ability of the dentine in these lesions to provide a suitable substrate for remineralization. Plaque removal was also greater in the 5,000 ppm group, but the authors discuss evidence which suggests this was not the main reason for remineralization.