Abstracts on this page have been chosen and edited by Dr Trevor Watts

Paediatric dentistry

Pediatric bone marrow transplantation: oral complications and recommendations for care

da Fonseca M A
Pediatr Dent 1998; 20: 386-394

During treatment these patients are profoundly immunosuppressed, which may lead to dental problems discussed in this review.

Marrow transplants may be used to treat haematological malignancy, congenital immunodeficiencies and inborn errors of metabolism. Existing marrow is destroyed by high dose chemotherapy, with or without total body irradiation. Severe immunosuppression may last over 3 months, until the new immune system functions well.

Dental management should centre on prevention. If treatment is required, platelet and neutrophil counts should be above 100,000/cu mm and 1,500/cu mm respectively, to minimize possibilities of haemorrhage or infection. Before immunosuppression, appliances should be removed from the mouth and good oral hygiene encouraged. Some medications may have high sugar content, and cause a significant caries risk if given at unsuitable times.

Mucositis is a side-effect of chemotherapy, and pain may be treated with topical anaesthesia or anti-inflammatory substances such as benzydamine. *Candida albicans* and *Herpes simplex* are the commonest causes of oral infection. Prophylactic antibiotics and pre-treatment dental attention reduce the likelihood of other infections. Graft-versus-host disease may produce erythema and lichenoid changes on oral mucosas. Plant alkaloid drugs may cause peripheral neuropathy, with pain particularly in lower molars.

Developmental anatomy

The chronology and sequence of eruption of human permanent teeth in Northern Ireland

Kochhar R, Richardson A
Int J Paediatr Dent 1998; 8: 243-252

This thorough study differed slightly from some previous findings.

Serial 6-monthly study casts from 5 to 15 years of age were examined for 276 Caucasian children in the Belfast Growth Study. With normal exfoliation, mean upper eruption ages in years for I1 to M2 were: 7.1, 8.2, 11.2, 10.6, 11.4, 6.4, 12.1; for lower teeth, ages were: 6.3, 7.4, 10.3, 10.5, 11.4, 6.3 and 11.8. Premature loss of primary predecessors delayed eruption, except for upper PM1 and lower C (no change), and upper PM 2 (accelerated).

The maxillary eruption sequence M1-I1-I2-PM1-C-PM2-M2 occurred in 16% of subjects, and mandibular sequence I1-M1-I2-C-PM1-PM2-M2 in 13%; but unique sequences were found in 22% of upper and 33% of lower arches. Previous studies, for instance, had reverse orders for maxillary M1 and I1, and PM1 and C. Eruption was earlier in females, except for M2.

Paediatric trauma

Presenting characteristics and treatment outcomes for tongue lacerations in children

Lamell C W, Fraone G et al.
Pediatr Dent 1999; 21: 34-38

Suturing these injuries had no effect on outcome.

Over a 9 month prospective period, 28 children of mean age 3 years presented with tongue laceration at a children's hospital in Ohio. Suturing was usually performed for gaping wounds, lateral border wounds, and active haemorrhage. The clinician was able to override this protocol.

The commonest wound location was anterior dorsum (54%). In some cases, there were multiple lacerations. Ten presented gaping at rest, and the mean length was 13 mm (range 3–35), width 2 mm (0–15) and depth 4 mm (0–15). Suturing (10 of 28 cases) had no effect on post-treatment haemorrhage, pain, dietary limitation or quality of result. While there was a protocol for suturing, the authors note the behavioural difficulties in management of children of this age, and recommend a conservative approach.

Oral medicine and pathology

Ischaemic osteonecrosis under fixed partial denture pontics: radiographic and microscopic features in 38 patients with chronic pain

Bouquot J E, LaMarch M G
J Prosthet Dent 1999; 81: 148-158

This paper is part of the process of establishing a possible cause for some cases of 'idiopathic' atypical facial pain.

A retrospective investigation was undertaken into biopsies recovered from 32 women and 6 men identified in 12 states of the USA, all of whom had idiopathic jaw pain or radiographic abnormalities originating in subpontic bone. These were compared with results from 9 women and 2 men identified with similar radiographic abnormalities but no pain.

Imaging tests and tests of coagulation disorders were also reviewed, since coagulation disorders were frequent in previous patients exhibiting ischaemic osteonecrosis. No patient had periodontitis or mucosal erythema at the site biopsied, and no surgery had been performed there in the preceding year.

The groups were demographically similar, and 10% of each had normal bone and marrow. Features of ischaemic osteonecrosis were found in 79% of the pain group, and 36% of the non-pain group; chronic osteomyelitis was found in 32% of the pain group, but in 64% of the non-pain group. The authors discuss these results and their relation to pain symptoms.