Rotting teeth in a young girl

Commentary by
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Preschool children are at risk of dental caries from extended use of bottles and should have access to dental care to prevent their teeth from decaying.

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CASE SCENARIO

Tracey, aged 5 years old, was brought in to my clinic from an outlying rural community to receive her immunisations before starting school. An opportunistic health check revealed that three of her top front teeth had rotted away to below the gum line. She also had several carious teeth towards the back of her mouth. Her mother denied that Tracey excessively consumed sweets or sweet drinks, confirmed that Tracey brushed her teeth and rather defensively asserted that Tracey had been born with 'soft teeth'.

How should the current situation be handled? Will the secondary dentition suffer?

COMMENTARY

This case is a stark reminder that few preschool children access dental care, this being especially difficult in rural and remote areas. All GPs and other health providers who are visited for health and immunisation checks can play a key role in the prevention and management of dental caries (tooth decay) in this age group.

To this end the 'lift the lip' strategy was introduced by the South Australian Dental Service and has been adopted in other states and territories as a response to the decline in oral health of children, and to improve the early identification and referral (to public or private practitioners) of children experiencing tooth decay (see www.sadental.sa.gov.au for details, including a photographic guide/tool to assist caries identification). In 2008/2009, 28,000 Australian children, 8000 of whom were younger than 5 years of age, were hospitalised for dental extractions and restorations, most of which were preventable.

In the case scenario presented here, the first priority is to highlight to Tracey's mother the need for prompt dental referral and assessment. Treatment recommended by a dental practitioner would be subject to a detailed history and examination, including assessment of the expected exfoliation of the deciduous teeth in question, the severity and extent of the decay in general, and the ability of the child to cope with treatment in the dental chair. The need for a general anaesthetic is a real possibility.

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It is also a timely opportunity to introduce information about the causes and prevention of tooth decay in general and early childhood caries (or baby bottle caries/decay) with the parent and child in a nonblaming manner. This information would be reinforced by the dental clinician. Early childhood caries generally affects the upper front deciduous teeth, but can affect all teeth. It is typically associated with prolonged exposure (such as comfort sucking while sleeping) to a sweet drink (e.g. soft drink, cordial, juice).

Almost 44% of 5 year olds in Australia have tooth decay. Of the total incidence of tooth decay, 80% is experienced by 20% of young children (those under the age of 6 years). Decay is a dynamic process of demineralisation/remineralisation, which is potentially reversible when confined to enamel, the outer layer of the tooth. The model of decay as a 'balance' between demineralisation (risk factors) and remineralisation (protective factors) of teeth is useful. The aim is to minimise the risk factor exposure and maximise the protective factors – that is, to tip the 'balance' in favour of remineralisation.

Risk or demineralisation factors include:

- a high frequency or prolonged consumption of fermentable carbohydrates and sugary foods or drinks
- comfort sucking with a sweet drink (even plain milk), particularly sleeping with a bottle
- delaying commencement of tooth brushing with a junior fluoride toothpaste; this should begin at 18 months of age
- inadequate oral hygiene and plaque removal; parents should assist children with brushing up to about the age of 8 years.

Protective or remineralisation factors include the following:

- tap water is the best drink (fluoridated ideally) to satisfy thirst
- after 6 months of age, infant-feeding cups rather than infant-feeding bottles are preferred for drinks other than formula or breast milk
- twice daily plaque removal with a soft brush and junior fluoride toothpaste (from 18 months to 6 years); adult toothpaste should be used from 6 years of age
- children should be told to spit but not rinse after brushing to maximise the fluoride benefit from toothpaste
- professionally applied fluoride agents such as fluoride varnish should be used in children at high risk of tooth decay
- fissure sealing of selected teeth is recommended.

Although uncommon, an abscessed deciduous tooth has the potential to affect the development of the permanent successor, subject to the severity and timing of the infection to coincide with the development of the successor crown. Upper permanent incisors usually have completed their crown development by a year or two before the expected eruption at about 6 years of age. Should a deciduous tooth require premature extraction, there is an increased risk of space loss and crowding in the secondary dentition. This risk is greater for early loss of posterior deciduous teeth as compared with anteriors. This may necessitate space maintenance for the permanent successor and/or future orthodontic assessment and intervention, which might otherwise have been avoidable.

The notion of 'soft teeth' is often a misconception of a parent seeking a cause for the decay outside of their control and therefore their responsibility. Deciduous and permanent teeth can have development defects of enamel and dentine (hypoplasia); however, these are relatively uncommon and are often not carious.

CONCLUSION

Good oral health in young children is declining. This is especially so in rural and remote areas where exposure to fluoride and access to clinical dental care may be problematic. Good oral health is important to general health. All health practitioners can play an active role in the prevention of tooth decay and early intervention if they 'lift the lip'. MT

FURTHER READING

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COMPETING INTERESTS: None.

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