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Apical lesions

Sir,- In contemporary Western populations, prevalence of apical lesions remains high despite advances in treatment and widespread access to care.¹ The prevalence of apical lesions in historical populations remains unclear.² The purpose of this study was to compare archeological and contemporary specimens.

Contemporary specimens were from 223 dental patients in southeastern France. Archeological specimens came from the remains of 252 medieval subjects disinterred from the Notre-Dame-du-Bourg necropolis in Digne, France. Archeological specimens were from three periods: 4th–10th centuries, 11th–15th centuries, and 16th–17th centuries. Contemporary and historical populations were matched for age. X-rays were made of all dental aspects.

Endodontic lesions were classified as periapical bone loss (desmodonitis, granulomas and cysts) and periapical bone condensation (condensing osteitis and apical osteosclerosis). For the contemporary population endodontic treatment status was noted. (See table.)

Data were compared to detect changes in lesion prevalence and type over the centuries. Statistical analysis was performed using the Chi-square test with an alpha significance level of 0.05.

The prevalence of periapical lesions progressed constantly. In the historical population only samples from the second and third periods were significantly different ($p < 10^{-3}$). Comparison of the contemporary and overall historical populations showed a significant increase ($p < 10^{-3}$). The increase in the proportion of endodontic lesions was significant ($p < 10^{-3}$). Prevalence of bone loss lesions followed the same pattern as overall lesion prevalence. In the historical population no significant change ($p > 0.11$) in prevalence of condensing lesions was found between any population. Conversely a significant decrease in prevalence of condensing lesions in the contemporary population in comparison with the historical population ($p < 10^{-3}$) was found. Overall prevalence of bone loss lesions in our historical population was comparable with high-end values in the range (1.9%–9.1%) reported by Alexandersen² in German specimens older

than and concurrent with ours. Based on his study of the dental abscess in a population from the 11th to 15th century in Denmark, Boldsen³ reported that disease was not correlated with sex but highly correlated with age. Boldsen also stated that carious disease and occlusal attrition were the main risk factors for occurrence of periapical problems. Regarding condensing lesions, a previous study⁴ showed a significant correlation with high-grade occlusal surface wear due to chewing of abrasive foods.

The prevalence of apical lesions in contemporary Western populations is highly variable mainly in function of age.^{1,5} Apical lesions are observed on 0.8% to 5.2% of untreated teeth. The higher figure reported herein (5.8%) may result from several factors, i.e., inclusion of condensing lesions, counting desmodontal lesions as bone loss lesions and bias arising from use of pre-therapy orthopantomograms.

It should be noted that prevalence ranged from 16% to 58% after endodontical treatment (33.5% of teeth in our series). Epidemiological studies have not been performed on condensing lesions since they are uncommon and clinically silent. Several factors could account for the higher prevalence of periapical bone loss in contemporary rather than historical populations. Current dental treatment saves teeth that would have been lost. The mean number of teeth in the mouth at different stages of life is significantly higher in contemporary rather than historical populations (25 vs 12.6). Life expectancy is also longer. Thus it appears that prevalence of periapical lesions has not decreased over the centuries. Despite improving chewing ability, dental treatment may be one of the causes of these lesions.

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		Bone loss lesions		Bone condensation lesions		Total lesions/Total teeth	
Historical population	IV-X centuries	18/377	4.8%	5/377	1.3%	23/377	6.1%
	XI-XV centuries	64/1189	5.4%	33/1189	2.8%	97/1189	8.2%
	XVI-XVII	114/1215	9.4%	29/1215	2.4%	143/1215	11.8%
	Total	196/2781	7.0%	67/2781	2.4%	263/2781	9.5%
Contemporary population	Untreated teeth	246/4419	5.6%	9/4419	0.2%	255/4419	5.8%
	Treated teeth	403/1259	32.0%	19/1259	1.5%	422/1259	33.5%
	Total	649/5678	11.4%	28/5678	0.5%	677/5678	11.9%

Prevalence of periapical lesions according to type (i.e., bone loss and bone condensation) and overall prevalence. Data is presented according to archeological period for the historical population and according to endodontic treatment status for the contemporary population.

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4. Chazel J C, Mafart B, Tramini P. *Observations radiologiques des pathologies coronaires et peri-apicales relevees sur la population historique de Notre Dame du Bourg (IV^{eme} - XV^{eme})*. In Hadjouis D, Mafart B. *La paleo-odontologie*. France, Artcom, pp 152-170, 2001.
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Primary dentition

Sir,- On the first day of my retirement I picked up the last *BDJ* I shall receive. In all of my 37 years as a practising dentist I have never really been incensed at an article appearing in the Journal. That all changed with the opinion article 'Does the dental profession know how to care for the primary dentition?' (*BDJ* 2003, **195**: 301)

Now, I am not a flag waver for the specialist arm of the British Society of Paediatric Dentistry (BSPD). Indeed I purposefully did not make attempts to join the specialist paedodontic register as I recognise that over 90 per cent of primary dental care is carried out in general dental practice and in my opinion this is not particularly recognised by the BSPD. However, the article was strangely reminiscent of the views at the time I qualified that you did not need to anaesthetise primary teeth to treat them as they are 'sensation free'. That of course was 'bunkum' as was much of the opinion article. That nearly half of the children experienced pain is mentioned once then ignored. What about the consequences of chronic sepsis and the successional teeth?

What about the lost opportunities for future caries prevention? I recognise the article was Opinion and designed no doubt to stimulate replies, but to seem to encourage the ignoring of disease seems strange. Mind you it has been said going to the dentist no matter what age you are is dangerous for your dental health!

There are far more worthy practitioners in the field of dentistry for children than I, who I am sure will reply but this article will no doubt give heart to those who advocate that it is alright to engage in 'supervised neglect' and it is alright to not carry out adequate caries removal in the first place to avoid 'distressing the children'.

Preformed metal crowns (the authors could not even use the correct nomenclature) are very much simpler and cost effective than extensive restorations. My only point of agreement is that much more research is needed.

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The authors of the paper K. M. Milsom, M. Tickle and D. King respond: We agree that the treatment of the primary dentition in fit and healthy children is essentially the province of the 'High Street' primary care dentist and should not be thought of as specialist work, any more than treatment of the adult dentition should be.

With almost half of the children in the study experiencing pain at some stage there is clearly cause for concern, however, the finding that increased restorative intervention was not associated with reduced pain experience should at least give pause for thought.

Clearly effective prevention must be the way forward and the authors strongly support the need for an evidenced base preventive approach to the care of the primary dentition.

As for the reference to 'supervised neglect', no dental professional would condone this concept, although many unfortunately regard a non-restorative approach to the care of the primary dentition as its equivalent!

The real ethical dilemma is not whether leaving carious primary teeth unrestored is neglect, but rather whether meticulously replacing lost tooth tissue in children can be justified.

The benefits of stainless steel crowns have not been shown, except that they may last longer than amalgams. We simply do not have the evidence to show that they are the more effective in reducing the risk of pain and minimising the possibility of developing dental anxiety.

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Specialist training

Sir,- At last, M E J Curzon has raised a very good point as to why the Royal Colleges hold such a grip over specialist training with the alphabet soup (*BDJ* **195**: 429). I wonder whether it is anything to do with the money they obtain from holding the exams?

I spent 18 years in general practice before taking a year out of my practice to study for an MSc in endodontics at the Eastman Dental Institute.

It was a great challenge and revitalized my career. However, I could not enter specialist training for endodontics without MFDS and then MclinDent followed by MRD.

If I had studied in Europe, I would not have needed MEDS or a final MRD, just three years of study. Can we please have a level playing field as we are in the European Community.

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