

ANCIENT PLAQUE REVEALS EVOLUTION OF ORAL DISEASE

Calcified dental plaque from 34 early European skeletons dating from the Mesolithic period (Stone Age) to the Medieval period has preserved a genetic record of oral bacteria that demonstrates the impacts of evolutionary changes in human diet.

A recent study published in *Nature Genetics* examined how the transition from hunter-gatherer to farming in the Neolithic period affected oral microbiota and created a shift in disease-associated bacteria. Oral diseases such as caries and periodontitis were rarer in pre-Neolithic hunter-gatherers and early hominins. Farming spawned a more carbohydrate-rich diet associated with an increase in dental calculus and oral pathology.

Researchers found the composition of oral microbiota remained fairly constant into the Medieval period and it was only after the Industrial Revolution that another distinct shift was detected with an increase in caries-associated bacteria, most

likely the result of new food processing technology and the production of refined grain and concentrated sugar.

Modern oral microbiotic ecosystems are less diverse than historic populations and dominated by cariogenic bacteria. They are also less likely to be resilient to imbalances and invasions. However, the abundance of periodontal disease-associated bacteria in modern dental calculus is no greater than it was since Neolithic farming. This finding is significant when drawing causal links between periodontitis and other diseases such as heart disease and diabetes. The authors conclude that 'although periodontal disease might contribute to pathogenesis, it is probably not a factor in the rising incidence of these systemic diseases'.

1. Adler C J, Dohney K, Weyrich L S *et al*. Sequencing ancient calcified dental plaque shows changes in oral microbiota with dietary shifts of the Neolithic and Industrial revolutions. *Nat Genet* 2013; 45: 450-455.

By Laura Pacey

DENTIST RESTORES POLAR BEAR TOOTH

The Dentistry IQ Network, run from Oklahoma, have reported on a team of dentists from Tukwila, just south of Seattle, who volunteer their time and expertise as dental consultants to zoos and aquariums in the region.

According to Dentistry IQ's

Managing Editor, Kevin Henry, endodontist Dr Edmund Kwan recently performed a root canal on Boris, a polar bear weighing over 65 stone, who was suffering from an abscess. Other medical professionals removed a mass from Boris' right eye and trimmed his toenails while Boris was anaesthetised. Dr Kwan restored Boris' 3.5 inch-long right canine with a silver filling.

Dr Kwan has also carried out dental treatment on gorillas, tigers, sea otters, wolves and a hyena.

Pictures of Boris' operation can be viewed at the following link: www.thenewstribune.com/2013/02/23/2486876/root-canal-eye-work-for-point.html.

XEROSTOMIA POSTER WINS IN SEATTLE



Poster prize winner Dr Margaret Stacey (centre) with her colleague Dr Denise Bailey and *BDJ* Editor-in-Chief, Stephen Hancocks

Dr Margaret Stacey became the latest winner of the *British Dental Journal* prize for best poster across the practice-based research and evidence-based dentistry groups at the IADR General Session in Seattle last month.

The winning poster entitled 'PREVENT Study: Developing a Dry Mouth Education Program for GMPs' discussed the development of an education programme in conjunction with general medical practitioners (GMPs). The aim was to improve their awareness of dry mouth and so influence their clinical practice. *BDJ* Editor-in-Chief, Stephen Hancocks, who judged the posters, was 'particularly impressed with the way in which the research overlapped both general dental and general medical practices with a possibility of development into ophthalmic practices and pharmacies.'

Dr Stacey, a full time lecturer based at the University of Melbourne, is part of the *eviDent* dental practice-based research network (www.evident.net.au) which aims to encourage relationships between practitioners and academic researchers. She was awarded a *BDJ* certificate, a personal online subscription to the journal and a cheque for £250.

BDJ Managing Editor Ruth Doherty noted that 'the standard of the posters at IADR was very high and is a good indication of the strength and quality of the practice-based research and evidence-based dentistry fields within dental research'.

Many congratulations to Marg and the team in Melbourne!

