Other journals in brief

A selection of abstracts of clinically relevant papers from other journals.

The abstracts on this page have been chosen and edited by John R. Radford.

DEMENTIA

Nontraditional risk factors combine to predict Alzheimer disease and dementia

Song X, Mitnitski A *et al. Neurology* 2011; **77:** 227-234

'Does the denture fit?'

Age, more so than other medical conditions such as heart disease and other less well defined factors, for example a sedentary lifestyle, is the single most important risk factor for late-onset Alzheimer disease (AD). The aim of this study was to explore other 'deficits', referred to collectively as a frailty index, that are not 'traditionally' attributed to AD. These comprised 19 'deficits' ranging from issues as diverse as 'Trouble with you feet or ankles?', 'Nose stuffed up or sneezing?' and, 'Does the denture fit?'. This longitudinal study looked for AD and dementia, 5 and 10 years after baseline examinations on 7,239 cognitively healthy Canadian older adults. When adjusted for 'traditional' risk factors, the odds ratio for dementia increased ($p < 0.021$) for each 'deficit accumulated, outperforming the individual cognitive risk factors'. The investigators argue that multivariable logistic regression modelling should be used to better understand risk factors for dementia.

DOI: 10.1038/sj.bdj.2011.864

IMPACT OF AN OCCLUSAL INTERFERENCE

Evaluation of psychological effect of prosthetic treatment using Emotion Spectrum Analysis Method (ESAM)

Nishiyama Y, Ohnuki M *et al. J Prosthodont Res* 2011; **55:** 82–88

An experimental occlusal interference tended to increase mental stress and decrease relaxation.

The Emotion Spectrum Analysis Method uses an electroencephalograph to measure scalp potential at ten locations, in order to quantify mental stress, joy, depression and relaxation. The aim of this study was to compare these emotions in four individuals only, with and without an experimental occlusal interference. The occlusal interference (100 µm) was created by luting temporarily a modified casting onto a first mandibular molar tooth. The subjects were asked to chew gum during the experimental periods. When there was an occlusal interference, there were no consistent findings with respect to stress, joy, depression or relaxation. However, in three subjects, stress increased with an associated decrease in relaxation.

DOI: 10.1038/sj.bdj.2011.865

IMPACT OF PROSTHESIS ON SPEECH

Characterization of mandibular movement during speech in the presence of oral articulatory perturbation

Mays KA, Stone M. *Arch Oral Biol* 2011; **56:** 474-482

Speech adapts to changes in the oral cavity space caused by appliances.

How should a dentist care for a patient who complains that their new prosthesis has affected their speech? Indeed, can an appliance alter speech? This study tracked jaw movements in 12 volunteers when the fricative 's' was enunciated before and after altering the geometry of the oral cavity with an acrylic palatal appliance (by either anteriorly or posteriorly increasing the thickness of the appliance by 5 mm). Acoustic data was captured with a microphone. Speech was affected after insertion of the appliance but, after 2 weeks, adaption occurred. The investigators suggest that 'this adjustment is generated by sensory and auditory feedback in order to achieve the acoustical target.' The vertical jaw position was stable implying that the tongue and/or larynx carried out this compensation. When the device was removed, there was a speech disturbance 'overshoot'.

DOI: 10.1038/sj.bdj.2011.866

WELL-BEING

Improved perceived general health is observed with prosthodontic treatment

Reissmann DR, Schierz O *et al. J Dent* 2011; **39:** 326-331

No perceived improvement in general health when patients receive either fixed prosthodontics or complete dentures.

The U.S. Surgeon General stated in 2000, 'oral health means much more than healthy teeth – oral health is integral to general health'. But is this just a mere platitude? The aim of this study was to determine if there was a perceived improvement in general health one month after prosthodontic treatment, in a selected group of 500 German patients. The investigators report that there was no improvement in well-being when patients received fixed prosthodontics and complete dentures (2.3% and 4.1% respectively), but there was after the provision of removable partial dentures (11.3%, $p < 0.01$). The investigators concede that this case series cannot lead to strong causal inference, as there could have been a response shift and regression towards the mean.

DOI: 10.1038/sj.bdj.2011.867