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.

DIABETES – PERIODONTAL DISEASES

Effects of periodontal non-surgical therapy plus azithromycin on glycemic control in patients with diabetes: a randomized clinical trial.

Botero JE, Yepes FL *et al.* *J Periodontol Res* 2013; **48**: 706–712

It was not surprising considering the very limited interventions, that there was only a modest improvement in glycaemic control. It has been reported that ‘periodontal treatment reduces plasma HbA1C (a measure of glycaemic control)’. Azithromycin, a macrolide, may have a role in the treatment of those with ‘low plaque scores and low responsiveness to periodontal therapy’. All subjects in this study had type 1 or type 2 diabetes. Thirty-three patients received non-surgical therapy and azithromycin, 37 patients were treated with non-surgical therapy plus placebo and the remaining 35 patients received supragingival prophylaxis and azithromycin. Periodontal therapy was carried out on one single session only, and azithromycin 500 mg/day was prescribed for three days only. Despite these very limited non-surgical and pharmacological interventions, there was a significant reduction in HbA1C in the non-surgical therapy and azithromycin group compared with the non-surgical therapy and placebo group after nine months. There was a modest improvement in glycaemic control.

DOI: 10.1038/sj.bdj.2014.75

ANTIBIOTIC STEWARDSHIP

Preserving antibiotics, rationally

Hollis A, Ahmed Z. *N Engl J Med* 2013; **369**: 2474–2476

Usage fees would have several advantages over the banning of non-human use of antibiotic growth promoters.

Has a dentist fallen short if, as a precaution, they prescribe antibiotics on a Friday afternoon for a patient with a symptomatic tooth when surgical drainage appears to be sub-optimal? The stark reality is that ‘51 tons of antibiotics are consumed daily in the United States alone’ of which 80% of antibiotics are used in agriculture and aquaculture. They are fed to pigs as growth promoters, to salmon in net-cages, and even combined with marine paint to inhibit the formation of barnacles. It has long been argued by industry that there is no evidence that such use harms humans, particularly because much is used at subtherapeutic levels. Yet ‘bacteria are not particular about whether they colonize a milk cow or a human, and they easily exchange genes conferring resistance.’ The authors of this ‘Perspective’ favour the introduction of a usage fee for the non-human application of antibiotics, akin to a ‘stumpage’ fee. The outright banning of growth promoters in Europe has resulted in an increase of their use for ‘therapeutic reasons’.

DOI: 10.1038/sj.bdj.2014.76

ANTIBIOTIC RECOVERY PLAN

Antibiotic resistance—the need for global solutions

Laxminarayan R, Duse A *et al.* *Lancet Infect Dis* 2013; **13**: 1057–1098

‘...we might be faced with dire setbacks, medically, socially, and economically, unless real and unprecedented global coordinated actions are immediately taken.’

This authoritative document explores nine areas of antibiotic resistance. Antibiotic stewardship does not only apply to hospitals in resource-rich countries but in primary care in poor countries. Interestingly, examples of non-antibiotic treatment are suggested such as the use of herbal medicines and delayed prescriptions. The present business model used to develop new antibiotics is fragmented, not least because ‘the net present value of antibiotic to a drug company is minus \$50 million, whereas a new musculoskeletal drug, without restrictions, is worth \$1 billion.’ Small and medium sized enterprises (SMEs) should form links with academia and translate research ideas into products. The development of the lipopeptide CUBICIN® (daptomycin for injection) is an example. It has a narrow spectrum of activity and ‘creative re-examination of dosing’ has overcome problems with muscle toxicity. Antibiotic resistance ‘affect(s) everybody in the world’ and has parallels with climate change.

DOI: 10.1038/sj.bdj.2014.77

DIABETES: SOCIETAL AND HEALTHCARE CHALLENGE

Opinion/Editorial. Diabetes and noncommunicable disease. Prevent the preventables

Chan JCN. *JAMA* 2013; **310**: 916–917

‘...diabetes was associated with reduced life expectancy of 6 years...’

This Opinion/Editorial gives an entry point for the substantive paper published in this issue of the journal (*JAMA* 2013; **310**: 948–958). It is stated that 1) up to 113.9 million Chinese adults suffer from with diabetes (11.6% of the population) and half (493.4 million) the population have prediabetes, 2) only 25.8% of those with diabetes were receiving treatment, and 3) less than forty percent of those receiving treatment had adequate glycaemic control. Interestingly and contrary to a meta-analysis, there were ‘negative associations of diabetes and prediabetes with smoking’, although this could be as a consequence of reverse causality (effects precede the cause). This study was carried out with 98,658 Chinese adults across 31 provinces. Diabetes was diagnosed using the latest American Diabetes Association criteria. The investigators did not distinguish between type 1 and type 2 diabetes. Oral health was not discussed; there is a ‘bidirectional relationship between diabetes and periodontal diseases.’

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