EUROPERIO 7

What a great 3 days of learning in the beautifully civilised setting of Vienna, the home of most of the great composers of the last 3 centuries and Sacher torte! The meeting was well attended with about 5000 delegates and half a dozen sessions running concurrently. Phil was presenting in one of the bigger halls, with an audience of about 500! So we’ve now made our mark in Europe, and a significant mark it seems to have been, with one speaker (a well known professor) the following day remarking on the “worrying” pictures that Phil showed of subgingival calculus becoming exposed as a result of optimal plaque control!!! So here is a brief, exhausting, but not exhaustive, summary of the most memorable sessions that your intrepid PerioCourses reporters, Phil, Ian and Sarovi, attended. We didn’t make all the sessions, a physical impossibility, but we tried our best!

Ian and Sarovi at EuroPerio7

Phil with co-presenter and co-Chair, Bernita Bush Gissler from Switzerland
Opening Session

The first day opened with a non-dental speaker as these things tend to do. Prof Josef Penninger is a biomedical researcher and has twice been listed in the top 10 scientists in the world and he spent 60 minutes showing us why!

Many of you will remember how proud Phil is of his inflammatory pathways slide (the one that took him 3 days whilst on holiday in France) and those with good memories will remember him talking about the RANK/RANKL axis. Well, this chap was the person who discovered that the gene, RANKL, enclosed the master regulatory protein for bone loss. He explained how the discovery of this gene and its role opened the door to explaining many bone wasting diseases and heralded a new branch of research, namely osteoimmunology.

He has developed this concept into a treatment that is already benefitting hundreds of thousands of patients and he has shown how he can control skeletal-related events in cancer metastases and may even be able to delay bone metastases.

He showed that this RANKL is affected by sex hormones, which is why more women get osteoporosis, and that this link was necessary as it is also part of the process that causes lactation in pregnant women. As it affected breast tissue, they also believe that it may have a role in breast cancer.

He showed how it is not as easy as just messing with RANKL as it also is part of our thermoregulatory process and in mice, one of the early complications of altering RANKL was that the mice overheated and died!

He concluded that there was much work to do and that this may have significant implications in periodontal disease management. But rest assured folks, he is far too busy curing osteoporosis (and possibly some cancers) to focus on periodontal disease. As such, you still need to come on our courses so that you know how to manage the disease with a patient-centred approach!

Mucogingival Problems

There were a number of mucogingival presentations but there was not a lot of new stuff here. There were fantastic presentations from Prof Sanz (Spain) on aetiology and diagnosis and as per usual the Italians Trombelli and Zuchelli provided a Masterclass in current treatment strategies. Being Italians, these were very animated and described subtle differences in their individual techniques, each saying why their technique was better than the others! Lots of testosterone and hand gesturing together with some amazing work and entertaining presentations. If you need an update, our Module 6 (Surgery for the Non-Diseased Patient) is the one for you.
Profs Wennstrom and Renvert presented together on biofilm management in the periodontitis and peri-implantitis patient respectively. They talked about treating patients in ‘phases’, pointing out that a phased approach is the best way to go, waiting for a response to each phase rather doing all the treatment at once (I think they must have sneaked into one of our Module 2 sessions without us noticing). Jan Wennstrom talked at length about the development of the RSD technique, mentioning Bernie Kieser no less than 3 times. “Root planing”, he said, “should not be a part of the initial phase of periodontal infection control”. He covered all the FMUD vs QSRP studies which showed equal effectiveness and suggested that we should choose the instrumentation method that causes the least damage to root surfaces.

“Be careful with the root surface!” he said. This was on the Thursday and Phil presented the same data during his presentation on minimally invasive therapy the following day at a hygienist therapy session, so nicely setting up his talk! This led into a discussion about Perio-Flow, the subgingival air abrasion device using glycine powder that we’ve starting using for SPT. This disrupts biofilms but causes no damage to root surfaces and the studies look very promising. Prof Renvert looked at the data supporting use of Perio-Flow in peri-implantitis cases, which is looking equally promising. Phil had a good chat with Prof Wennstrom afterwards about JBK, whom he greatly admired.
**Peri-Implantitis**

Whilst there was a large presence at the trade fair from the big (and small) implant companies, there were a number of lectures on peri-implantitis. Prof Sanz told us that there are 147 implant companies in the world with 600+ different implant systems in the market place. Of those, he said that only 6 had any significant level of scientific support in the form of studies and of those 6, only 3 had data that went beyond 5 years. We will leave it to you to work out who those three are! Amongst these three systems there were very high cumulative survival rates of between 94-98% at 5 years. All sounds great doesn’t it? Well the different lectures we went to on the subject had a bit of a theme - up to 5 years, survival is very high but there were studies presented that show the prevalence of peri-implantitis ranging from 11% to 35% with one study as high as 52%! It all depends on your definition or criteria for saying that the bone loss is acceptable or pathological. It was shocking to hear that the odds ratio for the presence of plaque around implants as a risk for peri-implantitis was a huge 14.3, reinforcing the fact that we really need our patients to know how to clean their implants as well as their teeth!

The underlying theme was that peri-implantitis is a bigger problem than people realise and that managing it is not that predictable. There is the feeling that as more implants are placed and as some dentists are less strict with their patient selection, this problem is going to be huge over the coming years. Medico-legally this could be very interesting in the years to come. Maybe we need a Module 7 on peri-implant problems - Assessment, Diagnosis and Treatment, what do you think? Let us know.

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**Motivational Interviewing**

There was a really interesting session in the hygienist programme on the concepts of motivational interviewing. Jean Suvan was very good on this topic, talking about self-efficacy and the importance of individualizing oral hygiene advice, addressing patient preferences, needs, capacity and goals. She and her 2 fellow speakers talked about quality of life issues. They talked about the different goals of clinician and patient in perio treatment which of course is the difference between true and surrogate measures, which we have talked about a lot in our courses.
**Interproximal Plaque Control**

The overall conclusion of this presentation by Prof van der Weijden was that there was no evidence that flossing was worthwhile and that ‘bottle’ brushes were better. Although it was shown that ‘professional’ standard flossing did produce good results, it was stated that patients rarely achieved this level of flossing ability. The results of the 2008 International Journal of Dental Hygiene systematic reviews were presented but this produced one of the most lively debates at question time in the whole conference. Clearly many people disagreed with the conclusions of these SRs; one excellent questioner (a German periodontist) got a round of applause when he pointed out the studies were based on a couple of minutes of OHI on models which he said, correctly, was a totally inadequate level of OHI. His patients get much more instruction than this, as do ours! Also a psychologist in the audience pointed out how poor most OH delivery was and that the research in this field was of very low quality. We’ll continue to advocate the use of floss AND bottle brushes for our perio patients - the best of both worlds!

**Perio-Ortho**

A great session on the role of orthodontics in the management of periodontal patients. We heard from three world class clinicians who all reinforced the same message that in STABLE periodontitis patients, orthodontics can be considered. Jean Louis Giovanni showed us how once the periodontitis has been controlled, we could, together with our orthodontic colleagues, use ortho together with our periodontal regenerative techniques to reduce infrabony defects. Prof Weiland (President of the European Society of Orthodontics) reinforced the need for perfect periodontal control prior to orthodontic treatment but went on to show inspirational cases of how he could realign splayed teeth and even manage black triangle disease following successful periodontal treatment using clever interproximal reduction and alignment techniques. He stressed the need for orthodontic control in perio patients and the need for lighter forces to reduce the potential problems that can occur, without saying it, he was saying that fixed ortho is the way to go in perio patients with permanent retention post completion. Really great stuff!
There was quite a lot at this meeting on the use of antimicrobials, including a lengthy session on aggressive periodontitis in which, as expected, systemic antibiotics featured pretty prominently. Andrea Mombelli indicated that resistance was far less likely with 2 antibiotics given together (as we advise) as opposed to single antibiotic administration and that no randomised controlled clinical trial (RCT) has demonstrated superiority of any regime other than debridement plus amoxicillin and metronidazole (as we have always advocated). He also discussed a number of studies that have shown the efficacy of adjunctive antibiotics is *not* dependent upon the microbiological profile, including Aa, and that many studies show the benefits of adjunctive AB in Aa -ve individuals. Therefore, his personal protocol is to distinguish between moderate and advanced periodontitis, and supplement all non surgical therapy with AB in patients with advanced disease..... something to think about. In his own RCT he showed that molars benefited more from adjunctive AB, suggesting it could be a specific treatment for molars. Prof Ehmke (Germany) presented new data on systemic antibiotic use on over 400 patients which shows that the use of systemics significantly reduces LOA but he suggested that this was only clinically significant in about 12% of patients although there were sustained positive effects for 2 years with the use of systemic antimicrobials - one of the first studies showing effects over a longer time scale. This seemed to be quite a low figure but they were looking at both chronic and aggressive perio patients and we’ve always found that the most dramatic results are seen in the most aggressive or advanced cases so the results were probably diluted by patients with less severe disease. We noticed that every mention of chlorhexidine was fairly negative but there was a bit on topical antibiotic use and we suspect that there is increasing interest in topical antibiotics, after a period in which they had fallen out of fashion. Nothing startling in terms of new evidence but they may be making a bit of a comeback. Watch this space.....
**Inflammatory pathways**

Thomas Van Dyke from the USA talked about inflammatory pathways in relation to new pharmaceuticals that may later be available to help manage periodontitis - remember the inflammatory pathways slide used in Module 1? He spoke about the body’s natural inflammatory ‘moppers’ - resolvins and protectins that limit further inflammation by stopping the chemotactic migration of PMN’s and cytokine release, amongst other mechanisms. He showed his famous slide of a mouse that was injected with a well known inflammatory stimulant. Prior to injection, one of its ears was rubbed with resolvin-impregnated vaseline. Post injection the non-treated ear was inflamed, red and swollen and the resolvin-treated ear perfectly normal!

**Perio and Genetics**

Luigi Nibali, based at the Eastman discussed the evolution of bacteria as parasitic ‘guests’ on the human body. He spoke of the co-evolution of bacteria and humans. There is a continual evolutionary battle going on between humans and bacteria and we are constantly trying to ‘outsmart’ each other (the bugs have the upper hand of course due to their rapid reproduction). He spoke of his studies of gene mutation and that patients who are genetically predisposed to perio may have developed a more vigorous inflammatory response that would have given them a evolutionary advantage. He used Crohn’s disease as an example - previously, this hyper-inflammatory response of the gut would have protected the patient from dairy-associated bacterial infections. This further suggests periodontitis being considered a type of auto immune disease - as mentioned in Periocourses Module 1 when discussing aetiology. Past studies, such as Socransky’s 2000 study, was mentioned, identifying interleukin 1 (IL1) gene +ve patients as having higher levels of pathogenic bacteria. Nibalis’s own studies related to IL6 and showed that IL6 +ve patients had much higher levels of Aa and Pg. They showed that in IL6 +ve patients post-debridement, even though the levels of Aa went down initially, within 3 months they had become reestablished compared to IL6 -ve patients whose Aa levels stayed low. This strengthens the belief that some patients have a genetic factor that favours the harbouring of Aa and more pathogenic bacteria.

**Nutrition and Perio**

There was a bit on this but not as much as we had expected, especially after the BSP meeting in Belfast last year, maybe reflecting the lack of evidence in this area. Iain Chapple’s work was mentioned, particularly in relation to the role of micronutrients in periodontal disease pathology. Vitamin D and C deficiencies are common in Northern European populations and this is thought to play a significant role in disease levels. Probiotics? Good for antibiotic-associated diarrhoea (give with the ab and for 2 weeks after) but there is little evidence of efficacy in perio treatment, probably because it is difficult to introduce new (beneficial) bacterial species into an established biofilm. There have been a couple of (Indian) studies to show benefits of they introduced at the time of biofilm disruption but repeat of these studies by the Leuwen group have not been able to repeat these results. But, they said, “..evidence is emerging...this is in its infancy...studies are on their way.” Prof van der Velden summarised the nutrition session very nicely, advising us that fermentable carbohydrates are a significant risk factor for periodontitis, as was obesity and a lack of exercise. He advised us to eat 2 kiwis per day as this fruit is high in antioxidants, polyphenols and flavenoids!
‘To Restore or not to Restore?’ That is the Question

Gerry Linden (Belfast) dealt with the common clinical dilemma of whether to restore periodontally involved teeth. He pointed out the limitation of the available evidence - no RCT’s (case studies only), retrospective studies only, bias (if any of these words are foreign to you, come to Module 4!). He presented work from Pjetursson and Lang et al published just this year, relating to the success of bridgework on periodontally affected teeth compared to bridges in a periodontally healthy dentition; all these studies have shown that bridgework in the periodontally susceptible patient does very well - for instance Braggers 2011 review showed a 97% bridge success rate at 11 years. So the conclusion was that bridges on periodontally involved teeth last longer than we think!

But this is with the obvious proviso that patients perform optimal oral hygiene.

To Extract or not to Extract? That is also the Question!

Maurizio Tonetti presented a wonderful lecture titled ‘The Problem with Molars’. It was great to see him use all the prognosis studies we already refer to in Module 1. He dealt specifically with the options of whether to:

a) Extract early to retain bone for implant placement or
b) Maintain the compromised, furcally involved molar and manage with all the tools in the bag.

He looked at all the evidence base relating to the argument to extract, i.e. whether implants last longer than teeth, whether longer implants last longer than shorter ones and whether a sinus graft can be avoided with early extraction. Step by step, he used the evidence base to succinctly break down the argument for each point, stressing that we are dealing with a different type of patient: the periodontally-challenged patient.

His summary:
1. Concentrate on prevention and early intervention
2. Good diagnosis and monitoring
3. Furcation involvement is manageable
4. Apply effective molar retention strategies
5. Monitor the patient during secondary prevention
6. Replace these teeth with implants as late as possible

His conclusion:

“It is critical to give the tooth a chance. If the patient knows that I have done everything that is possible to save the tooth, they will accept failure with a different spirit. If I take out a tooth to place a bridge or an implant and this fails, then I think I may need to call my lawyer.”
We were pleased to hear Oystein Fardal (a Norwegian with a strong Ulster accent!) use the term ‘life long supportive therapy’ (SPT), rather than ‘maintenance’ when he spoke of SPT being the Achilles heal of periodontal therapy in his session on maximising the benefit of non-surgical therapy. He has conducted some great longitudinal studies in his practice and it was good to hear him summarising all these so well. A new study of his showed that the lifetime cost of SPT is about 11,000 euros. This may sound like a lot, but you only have to replace 4 teeth before it’s cheaper to have lifelong SPT! Peter Heasman also spoke on the subject of cost. He has conducted much of his research around health economics. One of his studies shows that it is extremely cost-effective to manage perio with systemic antimicrobials whereas local antimicrobials are double the cost for the same outcome!

Last session on day 2 looked at how successful the management of furcation involved teeth is. Those of you who have done our courses will know that the answer is very successful in the compliant patient and Prof Tonetti gave a great review of the literature including all of the studies that we discuss in Module 3. Jepsen went on to show us how to manage these teeth and it ranged from the very simple non-surgical options (Module 3) to the more involved, but very successful, surgical options (Module 5) to the borderline overkill/herodontics (we don’t have a module for that!)

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