

The Geneva Symposium on Tissue Injury and Pulp Regeneration

In the middle of July 2010, nearly 100 delegates from all over the world gathered in Geneva, Switzerland, to review and discuss recent advancements in pulp tissue biotechnology and the potentials to clinically achieve regeneration of the diseased dental pulp. The Pulp Biology and Regeneration Group of the IADR had taken the initiative to organize the symposium immediately after the IADR-General Session in Barcelona. The ESE belonged to the co-sponsoring organizations, together with the American Association of Endodontists, the Swiss Society of Endodontology and the Continental European Division of the IADR. Quite a few of our Certified Members had taken the opportunity to participate, at a reduced fee, in what turned out to be an extremely informative set of 3 days that were accompanied by interesting discussions, conducted in a truly open and friendly atmosphere. The symposium featured 14 invited speakers. An additional 28 research posters were on display and briefly presented in oral poster discussions.

Although the symposium had a clear basic science profile, issues and components of the research that need to be pursued prior to seeking clinical applications were addressed. Clinical obstacles to overcome relate to the infection problem in both inflamed and broken down pulps. It became clear that the use of strong antiseptic solutions such as sodium hypochlorite, common in endodontic therapy to combat root canal infections, may not be suitable in that dentine-derived morphogenic signals for the differentiation of new odontoblasts can be hampered. Jacques Nör's group at the University of Michigan demonstrated that in recent research. The need for new disinfection protocols that effectively eliminate biofilm structures on the root canal walls as well as bacteria lodged in the dentinal tubules without causing detrimental effects to progenitor cell differentiation was identified. Another important issue concerns the quality of the regenerating tissue. In an introductory address, Michel Goldberg of the University of Paris, Descartes Biomédicale des Saints Père, stressed the importance of distinguishing between repair and regeneration and that the objective of pulp tissue engineering efforts ought to be regeneration of a non-mineralizing tissue that serves the functions of the original pulp. The formation of a fibrous tissue that may be accompanied by gross mineralization depositions to obliterate the pulp chamber appears not optimal. Differentiation of new functional odontoblasts is desirable to complete root development in cases of immature teeth. In his talk, Stéphane Simon of University of Paris 7, emphasized that the regulation of odontoblast activity in the regenerating tissue is

crucial for proper pulp tissue healing and that a stiff task for future research is to gain understanding of the mechanisms involved. Misako Nakashima of the National Centre for Geriatrics and Gerodontology in Obu, Japan presented very promising findings on the potentials to regenerate a functional pulp. In a dog model she had transplanted different populations of progenitor cells (stem cells) from the canine tooth into the root canals of other permanent teeth following pulp removal and enlargement of the root apex. A tissue with nerves and vasculature similar to the normal pulp had developed within 14 days. At a further 14 days, new odontoblasts were visible, obviously in the process of forming new dentine. Considerations were also given during the symposium to the role of proper scaffolds to which stem/progenitor cells or various bioactive molecules can be attached for induction of the desirable tissue.

Clearly, much more exciting new information was presented during the fascinating days of the symposium, and a brief report like this cannot do this full justice. A proceedings report is forthcoming and will be published in *Advances in Dental Research*.



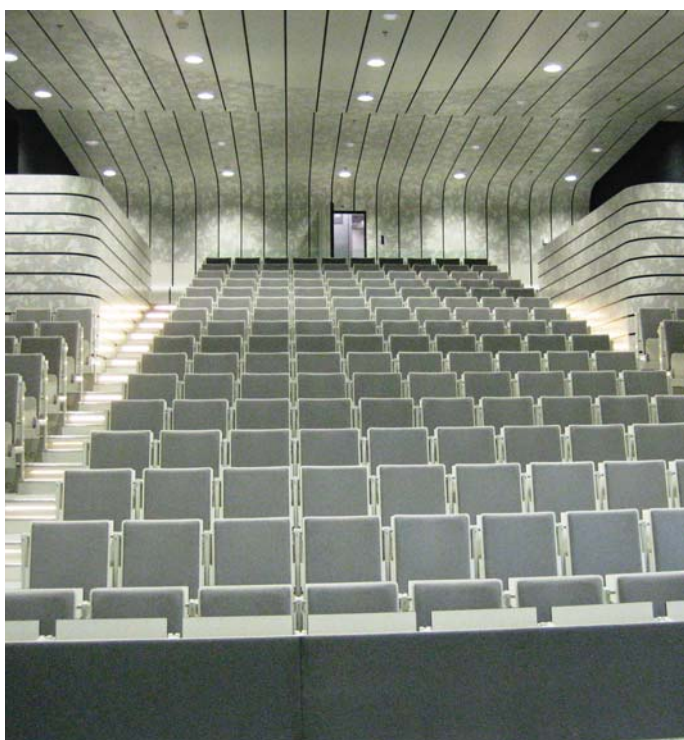
Fountains of knowledge in Geneva!

In summary, the Geneva symposium gave a great deal of hope for future clinical translations. Yet, a complex set of issues of basic science and clinical nature as well as ethical remains that need to be resolved before the hegemony of endodontics as the prime treatment for the diseased dental pulp may become seriously challenged. The Organizing Committee led by Gottfried Schmalz of the University of Regensburg is to be congratulated on a well-planned and successful conference.

Gunnar Bergenholtz

A new teaching/research facility for ACTA (Amsterdam) and its forthcoming meeting for Endodontic postgraduates in the Low Countries

The Academic Centre for Dentistry Amsterdam (ACTA) has moved to a brand new state-of-the-art building in the south of Amsterdam as part of the renewed campus of the Free University (VU). The 13 storey all-glass building promises to be one of the most advanced dental schools in the world in terms of patient care, students' facilities and research labs. The department of Endodontology is located on the 2nd floor and consists of a post graduate clinic and teaching hall, surgery room, lecture rooms, staff offices and a lab. One of the first activities to be held in the new school is a meeting of the endodontic post-graduate students in the Low Countries (Belgium and the Netherlands) which will take place between the 18 and 19th of November 2010. The new facility promises to keep the Netherlands at the spear point of endodontic teaching and research in Europe.



Meeting reports and features from across the region:

British Endodontic Society

It is with great pleasure that I report on the proceedings of the spring scientific meeting held in the grand surroundings of the Institution of Civil Engineers, close to Westminster Place in central London. This year's theme focused on the most crucial component of endodontic therapy, irrigation and medication, arming us with the weapons to "kill the bugs". There was an enthusiastic buzz among the delegates which reinforced the importance of a day dedicated to defeating our prokaryotic enemies!

The morning began with the outgoing President Dr John Whitworth handing over Presidential chain of office to the incoming President Dr Howard Lloyd. Dr Lloyd welcomed delegates and in particular those who had travelled from further afield including North America, Greece and Croatia. Dr Lloyd then continued with his Presidential address, outlining the role of the BES. He emphasised the importance of science within the Society and levels of evidence that set the scene well for an outstanding day of clinical science. The President's address was provocative, highlighting the role of the media in promoting sensationalism and 'bad science', with references to many thought-provoking publications, including 'Bad Science' by Ben Goldacre.

The first guest speaker Dr David Spratt took us on journey through the Biofilm and I am sure that I am not the only one who felt humbled by the complexity of these communities within the root canal system! The lecture reminded us that infection of an endodontic nature is polymicrobial and does not fit comfortably with relatively simplistic models of infectious cause and effect such as Koch's postulates. He gave a fascinating overview of the interaction between microbes and the human body and the complex, dynamic nature of biofilms. Dr Spratt highlighted that the key issue is knowing what the bacteria do, rather than simply knowing what they are called. The lecture left the audience with a question over coffee: how do we deal with these microbial communities? Possible answers would be provided through the day.

During the break there was an opportunity to browse a broad and topical range of research posters on display and discuss ideas with the authors.

The second lecture was given by Dr Luc van der Sluis from ACTA, Amsterdam covering mechanical aspects of irrigation. His introduction showed clearly how regions of the canal system often escape the effect of the antimicrobials currently used and the potential obstruction caused by apical vapour lock. He summarised some of his own research using novel

techniques to evaluate the effectiveness of ultrasonic activation of irrigant.

At this point it was time for the delegates to medicate themselves with a well earned lunch! During lunch the trade show was very busy with over 10 dental companies demonstrating a wide range of equipment and materials. One trade stand could have been mistaken for the lunch table as a suspicious smell of burning frankfurter emanated from the laser unit! Unfortunately the company representative was adamant that the toasted sausages were not for human consumption!

Following lunch, some recent dental graduates were recognised for the quality of their endodontic provision in Dental School and were awarded Thomas Pitt-Ford prizes by the President. Tom Pitt-Ford prizes are available for award in each of the UK dental students each year, recognising the most meritorious student in clinical endodontics, promoting clinical standards and general interest in clinical endodontics in UK Dental Schools. A fitting tribute to dear Tom and a great honour for the students. The Society was delighted that Tom's widow, Heather, was able to be present, to witness the award and share in the meeting.

Prior to the afternoon lectures Mr Steven Godfrey, a past President of the Society, gave a presentation outlining the activities of the North Trent Endodontic Study Group which has been supported by BES funds. This very active group is to be congratulated on the approach it has taken in promoting endodontology among specialists and general dental practitioners within the region. It is hoped that this may be the inspiration for the establishment of more study groups around the country with BES backing.

The President then welcomed the third speaker to the stage. Dr Christine Sedgley from Portland, Oregon, had made an extra special effort to attend the meeting having flown in from North America at 8 o'clock that morning. Her effort was to be greatly appreciated. Dr Sedgley gave an excellent presentation, describing the struggle between the clinician and the microbes and suggested a strategy for the clinician when using hypochlorite, chlorhexidine or cocktails of irrigants. She reminded us of the potential dangers of the chemicals we have the privilege to use. She closed by describing future challenges including the role of viruses in endodontic pathology and potential targeted gene therapy.

The final lecture was provided by Dr Matthias Zehnder from Zurich. He gave a summary of the role of calcium hydroxide in conventional inter-appointment dressings. Dr Zehnder described some of the varied alternative medicaments that are still under development but may lead to paradigm shifts in endodontics. These included bioactive glasses with their potential to be used as definitive obturation materials, perhaps one day sealing the demise of gutta percha!



BES President Howard Lloyd congratulates some of the 2009 Tom Pitt-Ford prize winners

A few delegates had some burning questions to put to the panel at the end of the day and the President thanked everyone involved.

In summary, the meeting confirmed some views and challenged others. It was expertly organised, allowing the day to pass seamlessly from speaker to speaker to comprehensively cover methods to eradicate the microbial challenge. To the organisers, I say congratulations and see you at the regional meeting in Leeds in November, where our keynote speaker will be Dr Jeff Okeson, who will speak on pain management.

Matthew B M Thomas, Cardiff

BES Council

Czech Endodontic Society

The Czech Endodontic Society was established in 2007. Its constitutive meeting took place in Prague on 28th May 2007, thanks to the commitment and hard work of a small committee of medical specialists with many years of experience in endodontics, namely Ludek Perinka, Lenka Roubalíková, and Jan Netolický. The main reasons for establishing the Czech Endodontic Society were to promote Endodontology within the profession, establish an active partnership with the European Society of Endodontology (ESE), improve the representation and profile of Endodontology within Faculties of Medicine and to facilitate expert communication and discussion among dentists. At the present time, the Society has about 50 members with representatives from both the Czech Republic and Slovakia. The Society's executive committee is currently made up Ludek Perinka (president), Lenka Roubalíková, (scientific secretary), MUDr. Jan Netolický Ph.D (treasurer), Simona Ságlová and



Participants at the Hotel Pyramida, Prague



Keynote speaker Vinio Malagnino from Italy

Tomáš Horák. The Society has already started to meet its objectives. In 2008, the first three workshops open to Society members took place, where selected endodontic subjects and interesting case studies from daily practice were discussed. In 2008, we developed internationally, becoming a full member of the ESE in March and in September co-hosting an international meeting of ESE representatives in Prague in collaboration with the Czech Dental Chamber. In 2009, we continued with our popular workshops, with three informal



Other speakers including Peter Abelovsky (Slovakia), Vlastimil Graus (Slovakia), Ludek Perinka, Daniel Cerny, Lenka Roubalikova and Jan Netolicky (all Czech Republic)

meetings being held. The landmark first congress of the Czech Endodonty Society was held at the Hotel Pyramida in Prague on October 3. This event attracted 270 participants both from our country and Slovakia, and met with a good response. The keynote speaker was Vinio Malagnino (Italy); other speakers included Peter Abelovsky (Slovakia), Vlastimil Graus (Slovakia), Ludek Perinka, Daniel Cerny, Lenka Roubalikova and Jan Netolicky (all Czech Republic). In 2010, the second Congress of the Czech Endodonty Society will be held on October 2nd in Prague. We also plan to continue of our regular workshops 3 times per year.

More information about the Society can be found on the Society's website: www.endodont.cz

Lenka Roubalíková

Scientific Secretary of CES

Endodontic topics revisited, no ledges allowed

In 2007, the board of the Flemish Society for Endodontology (FSfE, vzw), decided to organise a new Endo Update for Flemish GP's, the previous one having been given three years before.

It was decided to do a review on six hot topics which several members took the effort to prepare and took two years to refine and align the presentations. The enthusiasm was synergetic.

The Flemish Dental Society (VVT) was kind enough to be an excellent host for this one-day program.

Despite the beautiful spring weather on March 20th 2010, almost one thousand GP's being anxious to learn all the old and new facts in endodontics, spent half of their weekend in the auditorium. The up to date venue, the ICC in Ghent, made it comfortable for attendees and speakers alike.

The following topics were addressed :

- Pulp chamber anatomy: What you see is what you get
- Root canal anatomy: The feel
- Rinsing procedure
- Fractured instruments and post removal: Fiction and faction
- The vital pulp: treatment and regeneration
- Cracked tooth... really a syndrome?

It turned out to be a very exciting day with useful tips and tricks for everyday practice.

We thank the organising committee of the VVT for the top notch organisation of the event.

Els Tijskens, secretary of the Flemish Society for Endodontology

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A photo-montage from a ledge-free day!

Germany: the 3rd "ENDO – Endodontic Practice Today" and 10th "Endodontie"-Symposium

Problem Solving in Endodontics

On April the 16th/17th endodontists from Germany and all over Europe were invited to the 3rd Seminar of ENDO – Endodontic Practice Today and the 10th Endodontie-Symposium in Berlin under the combined Chairmanship of Prof E. Schäfer and Prof. M. Hülsmann, and hosted by Quintessence Publishing in cooperation with the German endodontic societies AGET/DGZ and VDZE.



The Congress Centre, Berlin

Although it was sunny in Berlin, the organization committee had to fight with the circumstance that Icelandic volcano ash-clouds prevented the attendance of some key speakers. Nevertheless, with about 200 participants, it was a well visited symposium with an interesting scientific program.

The scientific program started with Jens Ove Andreasen, who spoke about diagnosis and treatment of dental trauma. He explained pathogenesis, prevalence and incidence and elucidated the healing complications following dental trauma. He had the possibility to develop and consolidate some details in a second lecture, substituting for Bill Saunders, who's travel plans had been thwarted.

In the next lecture Prof Bilge Hakan Sen from Izmir, Turkey, gave an update of the current state of the art of root canal disinfection.

The first day of the meeting ended with a get-together party in the trade exhibition hall; a very welcome chance for all participants to discuss the topics of the lectures, to stroll around the trade exhibition and enjoy the company of good friends.

The next day started with a presentation of Michael Hülsmann from Göttingen, Germany, who acted as a substitute for Linda Peters (Amsterdam), another victim of the

cancelled flights. He lectured about problems in root canal preparation and explained how to prevent and treat ledges, zips and other canal aberrations.

Cengiz Koçkapan (Giessen, Germany) completed this topic of problems in endodontics with an overview on the controversy of under- or overfilling of the root canal. The slightly overfilled root canal with an extrusion of sealer (puff) was the main subject-matter of his presentation. He cited many studies and concluded that even a moderate extrusion could reduce the treatment outcome.

Christine Berthold (Erlangen, Germany) referred to the lectures of Andreasen and completed the trauma-management, elucidating the problems which might become apparent during the follow-up period.

Finally, Dr. Frank Setzer (Pennsylvania, USA) spoke about the differences in the outcome between root canal treatment and implants. In summary, there is no difference if the same parameters for assessment of the outcome are used.

Several short communications and case reports, mostly delivered by general dental practitioners, completed the interesting program.

Sebastian Bürklein, Münster, Germany

Michael Hülsmann, Göttingen, Germany

Keynote speakers:



Jens Andreasen

Bilge Hakan Sen

Cengiz Kockapan



Christine Berthold

Frank Setzer