

6th Arab-German Implantology Meeting of DGZI

March traditionally blesses Egypt with superb weather - warm days and soft evenings, which allow Egyptian hospitality to be showcased perfectly. Certainly the weather conditions were just one of the reasons to join the second international dental congress and 6th Arab-German Implantology Meeting held in Cairo on 24–26 March 2010.

On behalf of the Faculty of Oral and Dental Medicine of Cairo University, Professor Nour Habib, Dean of the Faculty, addressed a warm welcome to all the participants of the second international dental congress held in Cairo on 24–26 March, 2010.

In the opening ceremony of the Congress he highlighted the Conference's aims to promote professional development among dentists by acting as a means for communication and by encouraging dis-

ussion and research in all areas of dental practice. "We seek also to promote the dental profession in the community at large and to develop a spirit of cooperation with other organizations and groups with common interests and concerns," Professor Nour Habib explained.

The Congress also hosted the 6th Arab-German Implantology Meeting, moderated by well known scientific presenters from the Board of the German Association of Dental Implantology (DGZI) who worked as a team of distinguished professionals to resolve a tricky dental scenario.

The venue chosen to host the congress was Cairo InterContinental City Stars Hotel, where a huge floor-space accommodated the innovative associated Dental Trade Industry display. There was ample space for



the profession to experience the new technologies and materials that were showcased at the event. The Conference was complemented by an exhibition which provided the participants with the valuable opportunity to engage with vendors and explore the diversity of dental products and services available to support them in their work. Dr Mazen Tamimi, International Representative of DGZI, Scientific chairman and Dr. Rolf Vollmer, 1st Vice President of DGZI and Congress Chairman welcomed more than 30 participants from Egypt and Middle East. They promised an interesting one day scientific program with international key note speakers and colleagues presenting their master thesis as well. "Excellent education is one of the main focuses of DGZI and is something we concentrate on for the sake of our patients. In this way, we can ensure that our professionals benefit from the best education possible without having to turn to fee-charging companies," was the statement of Dr Tamimi.

_Scientific Program on Friday 26th of March 2010

Abstracts

Keynote Speakers



Dr Roland Hille

Dr Roland Hille, Germany The way to the esthetical success

Implantology in the aesthetic zone is one of the biggest challenges in dentistry. An exact analysis of the clinical situation before we start with our treatment

gives us confidence in our treatment plan. We must know the problems as well as the outcome before we start with our surgery and we also must have a clear conception of the final aesthetic prosthetic situation. The patient contemplates only the crown, not the implant in the bone. The patient's desire is to get a perfect aesthetic restoration which lasts for a long time. In particular, we need soft tissue support to achieve a perfect aesthetic result. This lecture provides information about important points to achieve success in the aesthetic zone, and also shows mistakes one should avoid.

Dr Suheil Boutros, USA New Concept in Preparing the Lateral Window in Sinus Lift Surgery

The lateral window sinus lift is a well-documented treatment modality used to augment the posterior maxilla when the remaining alveolar bone is 5 mm or less in height. Several methods of preparing the win-



Dr Suheil Boutros

dow have been proposed and documented, including the use of diamond and end-cutting burs and more recently the use of piezo surgery. Each of these techniques has its limitations; for example, the use of cutting burs presents higher incidences of the Schneideri membrane perforation, where as high as 40% has been documented. More recently the use of piezo surgery has been presented as an effective and safe means in lateral window preparation. The only limitation found with this surgery is that if the lateral wall is thick, it may become a time-consuming and less effective technique. The new innovation utilizes a large size side cutting bur, which is 5-7mm in diameter, making it very safe, predictable and a fast way to prepare the window.



Dr Mazen Tamimi

Dr Mazen Tamimi, Jordan Block Grafts as an option of treatment of severely atrophied mandible and maxilla

Several options for treating a severely atrophied mandible with less than 8 mm of bone remaining above the inferior alveolar nerve will be discussed. These include:

- _Bone block grafts of autogeneous origin or allograft
- _Distraction Osteogenesis
- _Nerve trans-positioning; exact technique & videos
- _How to perform these advanced surgery solutions
- _Short implants as an alternative.

There will be a discussion regarding how to choose a suitable treatment option, and how to perform that technique.



Dr Robert Laux

Dr Robert Laux, Germany Telescopic Attachments, New Modern Concept of Abutments and Transfers

Telescope or conical crowns have been recognized as successful connection elements for natural abutments for several decades now. They also offer excellent hygiene. Telescopes require perfect parallelism or a well-defined slight conicity of the primary copings. This can only be achieved with custom components or customized prefabricated components. Conical crowns with a cone angle of 4° allow for axial divergence between adjacent implants of up

to 8°. However, given the anatomical shape of the jaws, especially the maxilla, it is almost impossible to place anterior implants so that they do not exceed this axial divergence. The problem of angle compensation has to be resolved in the simplest possible manner. Any manipulation at the laboratory constitutes a compromise that defeats the purpose of working with prefabricated components. The Kobold, the Titan and the complete abutment are systems which lead to easier success in fixed and removable implant-prosthetics.



Dr Rolf Vollmer

Dr Rolf Vollmer, Germany
The posterior atrophied maxilla. Patient-centered choice of treatment

Sinus lifting techniques have been known about for more than 20 years and are accepted as standard techniques, ie beyond the experimental stage. This lecture describes the development of sinus lift from its origins and explains the indirect and direct methods as well as giving hints for their different indications. However, alternatives to these sinus lift procedures should also be considered, and we will therefore discuss minimally invasive procedures which may be possible in the future.



Prof Dr Dr Ralf Gutwald

Prof Dr Dr Ralf Gutwald, Germany
Bioengineering in Implantology

For reconstruction prior to dental implantation the gold standard is still autologous bone. Disadvantages are the limited availability of bone and the necessity of an additional surgical procedure which always implies the risk of donor site morbidity. External Tissue Engineering procedures for hard tissue augmentations of the maxilla offer advantages compared with conventional grafts, as there is minimal or no donor site morbidity. Additionally, Internal Tissue Engineering with bone-inducing factors like BMP-2 look promising for use in bone augmentation procedures.

Current research aims at investigating the influence of stem cells on biomaterials. In animal experiments stem cell application (a chair side procedure) in combination with a biomaterial (BioOss) show lamellar bone formation. The volume preservation was better in the test side than in the control side where cancellous bone was applied only. The new bone formation was comparable.

In a clinical multi centre study 45 sinuses were augmented with BioOss and stem cells (test) and 25 sinuses were treated with a mixture of BioOss and autologous bone (control). Biopsies were obtained when implants were inserted after three months. There were also no differences in new bone formation.

Master Student presentations



Dr Iyad Ghoneim (L)

Dr Iyad Ghoneim, MSc
Krems University, Syria
Immediate implantation at the time of extraction— Clinical study with literature review

Missing teeth is a very old problem which has plagued humankind for many years. Various solutions have been attempted, ranging from re-implanting the teeth extracted, to making artificial prosthesis in the shape of the missing teeth, to implantation of a biologically accepted material like titanium, which is the material of choice today. A vast number of studies have taken place to assess the rate of success of Titanium implants and much development has taken place by researchers to develop these implants and to improve their mechanical and technical characteristics. At the same time, a variety of new surgical techniques have been developed in order to provide a larger range of treatments options.



Dr Hussam Bakki (L)

Dr Hussam Bakki, MSc
Krems University, Kuwait
The Presence of Underwood's Septa in the Maxillary Sinus Among The Population of Kuwait

This thesis is intended to examine the frequency of Underwood's Septa amongst the population of Kuwait, and consider how to deal with it while implementing sinus lift surgery by proper planning considering the septa's morphology and location, based on a reliable CT scan imaging. For this purpose radiographs from 8 patients who underwent sinus lift operation were re-evaluated in our specialist dental centre.

Materials & Methods

In this study, a relatively small sample population of 8 patients was considered (2 males and 6 females), with an average age of 35 years, ranging between 26 and 44 years. Nine sinuses were operated on (sinus lift). All patients were candidates for dental implant-supported restorations placement - they were in good

health, all of them were partially edentulous (patients for whom we planned to extract teeth during surgery were considered as partially edentulous in this study) and all surgeries were performed by the same surgeon.

Results

It appears that antral septa are more commonly found in edentulous atrophic maxillae than in dentate ones, in the posterior portion of the maxillae than in the anterior portion and in the left side rather than the right side of the maxillae. ACT scan is the radiographic method of first choice for detecting the presence of septa, while panoramic radiography was found to be less sensitive and sometimes misleading in detecting sinus septa. Precise knowledge of patient's maxillary sinus anatomy allows for exact planning of surgery and helps to avoid unexpected complications.



Dr Ahmed Fadl (l.)

Dr Ahmed Fadl, MSc Krems University, Sudan Evaluation of laser application to uncover dental Implant in the second stage surgery

Lasers have been used in oral surgeries for many years with great success. In this research (in which a diode laser 980 nm was used), 10 patients participated, each of whom had been treated with dental implants more than three months ago, with a conventional first surgical stage.

All the implants were uncovered successfully with laser aid. For each implant the procedure was completed in less than 10 minutes. All patients reported very minimal postoperative discomfort or very slight pain at the one-week recall appointment. A fixture level impression was taken at that recall appointment.

According to the results of this research, soft tissue laser should be considered as an effective alternative technique for implant uncovering in the second surgical stage.



Dr Hisham Abueljebain

Dr Hisham Abueljebain, MSc Krems University, Kuwait Stem Cell Derived Bone

Implant therapy has become the standard of care for edentulous areas of the oral cavity. Following tooth extraction, there is often an inadequate amount of bone in which to place dental implants. In such cases, a ridge augmentation procedure

is performed prior to implant placement. Ridge augmentation techniques to correct these defects include guided bone regeneration (GBR) utilizing a barrier membrane, bone graft alone or bone graft with a membrane.

In elderly patients bone grafting may cause another injury in the donor site which may take days or even months to heal. This is often unacceptable to many patients. We propose here a new technique which is less traumatic and hence more acceptable to the patients.

Bone marrow contains osteoblast progenitor cells which appear to arise from a population of pluripotential connective-tissue stem cells, which can be obtained with aspiration. When cultured *in vitro* under conditions that promote an osteoblastic phenotype, osteoblast progenitor cells proliferate to form colonies of cells that express alkaline phosphatase and, subsequently, a mature osteoblastic phenotype. These cells will produce new bone at the ridge which may give an implantologist adequate bone width at the ridge where an implant should be inserted.



Dr Subea Hijazi (r.)

Dr Subea Hijazi MSc Krems University, Syria Atrophied posterior mandible. Where to start?

Implant treatment is becoming the first choice to replace missing teeth or fill free spaces in the jaws. Nowadays, the bone resorption or bone defects can appear in horizontal or vertical direction or both. Bone reconstruction should restore bone volume in both directions. The type of handling this defect will allow the maintenance of implant and the primary stability, a favourable occlusal axis and an environment around implant that will facilitate prosthetic reconstruction and hygiene access to the implanted area.

Therefore, the posterior mandible region is always a challenge for doctors because of the anterior alveolar nerve, especially if there is advanced bone resorption in the area. Over the last decade many articles have been written detailing the scientific discussion of this problem and the search for possible solutions; we can divide them into:

1. Alternatives to implant treatment (no implant)
2. Bone augmentation techniques
3. Alveolar distraction
4. Nerve transposition or lateralization
5. Short implant
6. Subperiosteal implant



Dr Salah Daffalah

**Dr Salah Daffalah, MSc
Krems University, Sudan
New Implant Abutment**

The goal of modern dentistry is to restore the patient to normal health by restoring the contour, function and esthetics. As a result of continued research and improvement in diagnostic tools and treatment techniques, predictable success is now a reality for the rehabilitation of many challenging clinical situations. In recent years, dentistry has become greatly influenced by aesthetic considerations. The primary reason for this is patients' demands for natural appearing restorations. This has resulted in a massive development in the field of dental implantology over the past 30 years. A new implant abutment made of fiberglass was introduced recently. This new implant abutment option is cost- and time-effective and it meets the patients' expectations in relation to function and esthetics as the implant closely resembles the natural tooth color. This presentation aims at evaluating the effectiveness of fiberglass dental implants in relation to function and esthetics.



Dr Nicholas Papadopoulos

**Dr Nicholas Papadopoulos, MSc
Krems University, Cyprus
The two stage mandibular ridge split, an alternative bone expansion technique**

Introduction

Cases of narrow mandibular ridges (less than 5 mm in mandible) require horizontal augmentation for the placement of screw-type dental implants. A two stage mandibular ridge splitting to decrease the risk of malfracture during osteotomy and minimize the possibility of losing crestal bone is presented.

Method

After corticotomy of a rectangular buccal segment with thin separating disc and a three week healing period, the mandibular ridge was expanded and in some advanced cases split buccally, leaving the buccal periosteum attached to the lateralized segment.

Results

With buccal segments expanded with no complications, we can gain on average 2-3 mm of horizontal bone width.

Discussion

In the mandible, greenstick fracture during widening with osteotomes or expanders has not been con-

trollable to date because of cortical thickness and strength of the bone; the risk of malfracture in the middle of the thinnest buccal region is high, with the possibility of future bone receding being very high.

With this Two Stage Mandibular Ridge Split technique the location of the greenstick fracture is predetermined away from the midfacial crestal area, and the perfusion of the buccal segment remains attached and intact. The buccal cortical segment remains a pediculated graft after ridge splitting and thus the practical benefit is no bone loss crestally.



Dr Rouven Bönsel (r.)

**Dr Rouven Bönsel, MSc
Krems University, Germany
Prerequisites for immediate loading of dental implants**

Modern clinical approaches to loading of dental implants promise the patients immediately loaded implants. Based on this observation, this study will examine whether, considering the processes occurring during bone healing, immediate functional loading of dental implants is possible.

This study evaluates the predictability of early and immediate loading protocols of implants in the upper and lower jaw. In this observational study 450 dental implants were loaded early. The implants were inserted into various regions of the jaw in the maxilla and mandible. The criteria determined was whether the osseointegration had been completed after three months. The success rate in this observational study ranged from 92 % (upper jaw) to 100 % (lower jaw). The clinical applicability of the treatment concept is very favourable, due to the shortening of the treatment time.



Dr Adel Byadsi

**Dr Adel Byadsi, MSc
Krems University, Palestine
Sinus Lift—New Technique**

This lecture will show the advantages of a unique usage of the Piezo technique in fine and precise cutting of the bone, without damaging or causing perforation of the Schneiderian membrane.

This technique enables us to reuse the bone and thus negate the need for additional membrane. The success rate in such surgery is high and the complications are very low.