

Differences related to sex, the subjective perception of pain and fear during the extraction of teeth

Monika Serzysko, Aleksander Głuszko

Students' Scientific Group, Department of Dental Surgery, Medical University of Warsaw

Head of the Clinic prof. dr hab. n. med. Andrzej Wojtowicz

Trustee of the paper: lek. dent. Szymon Frank

Introduction: Pain is an unpleasant sensory and emotional experience expressed by patient in individual way. To assess pain intensity 0-10 Numeric Rating Scale is useful. Pain is difficult to objectively assess the differences in the perception, depending on gender, age and vulnerability. Sex differences have long interested scientific and medical researchers and, and the pain literature is replete with laboratory and clinical studies comparing the reactions of men and women. Some authors have suggested that sex differences are relatively small but others shows had differences can be significant. Men and woman have different response eg. to headache, fibromyalgia and temporomandibular disorders, moreover there are differences in pharmacokinetics and pharmacodynamics at anaesthetics.

Aim: The aim of this study is to analysis response to pain in men and female patient duringteeth extraction. investigate the intense of pain quantity of used anaesthetics and fear of further surgery.

Material and methods: The study group consisted of patients admitted to the clinic for dental extractions. After surgery the patient fills an anonymous questionnaire that included questions about gender, type of extraction, the intensity of pain, fear of further surgery and the amount of anesthesia used.

Results: At this stage, studies show that the ex- traction of a tooth average rating scale of subjective pain experienced by the patient during surgery in women is 0.6, and 1.66 in men. 60% of women marked 0 in the survey, men chose this option in 50%. After extraction of more than one tooth the average subjective pain rating was 3.25 in women and in men 2.25. Half of the women after a single extraction and the extraction of several teeth admits that they feel the fear of another similar procedure. Men after a single extraction admit to feeling fear in 16.7%, and after the extraction of more than one tooth in 25%. In 80% of women during the extraction of one tooth one ampoule of anesthesia was sufficient, 10% 2 ampoules were necessary, and in the next 10% 3 ampoules. in 33.3% of men in a single extraction was sufficient 1 amp, 50% used two ampoules, and in 16.7% 3. During the extraction of more than one tooth, one ampoule was sufficient in 25% of patients, both female and male. in 25% of women and 50% of men were needed 2 ampoules and 3 ampoules were used in 50% of women and 25% of men. Due to the fact that studies are conducted,

the results may change.

Conclusions: There are differences between men and women in the subjective perception of pain and the occurrence of fear of surgery. Men and women react differently to given anesthesia. Gender is a differentiating factor, but we must also be remembered the normal variability in the subjective perception of pain and fear.

Causes and differences in oscillation of sugar level in blood at healthy and treated to diabetes patients after procedures in oral cavity area

Hubert Gołabek, Agnieszka Adamska,

Agnieszka Miskurka, Mirella Ziomek

Students' Scientific Group, Department of Dental Surgery, Medical University of Warsaw

Head of the Clinic prof. dr hab. n. med. Andrzej Wojtowicz

Trustee of the paper: Wojciech Popowski, PhD

Introduction: Carbohydrates are the main source of energy for the human race. The level of sugar constantly fluctuates in the normal range of values. When physiological limit of sugar is exceeded, we face a prospect of a disease which involves chronic impairment of cellular glucose metabolism — diabetes. We distinguish two types of diabetes: I — insulin—dependent and II — non—insulin-dependent. Proper concentration of glucose in blood on an empty stomach is less than 100 mg%. Diabetes is diagnosed when the concentration of sugar in vein blood on an empty stomach is more than 126 mg%. Surgical operations on people with diabetes are burdened with as increased risk. All surgical procedures should be performed on people with controlled diabetes. Stress during the operation can lead to various metabolic impairments, especially glucose metabolism.

Aim: Evaluation of the influence of intra-oral surgical operation on the level of glucose in blood amongst patients with and without diabetes.

Material and methods: The research was performed in the Oral Surgery Department, MUW. The study group consisted of 24 individuals who were undergoing exodontia. 21 of these were healthy, whereas the other 3 were diabetics. Each patient was interviewed and the results were recorded. Stress scale which we invented was used to evaluate the stress level. The test of level of sugar in blood was carried out before and after the operation. The Glucosense pro and the Contur TS glucometers were used to test the sugar level.

Results: The average level in healthy patients was equal to 84 mg/dl, diabetics: 138 mg/dl before the surgery and 89 mg/dl in healthy patients, diabetics: 139 mg/dl after the procedure. 7 healthy patients manifested decrease of glucose concentration level after the surgery and 14— increase. A decrease in patients with diabetes was noticed only during surgery, it was equal to 15

mg/dl and an increase during 2 surgeries and was equal to 9 mg/dl. The average stress level in all of the patients 1.

Conclusions: The conclusions are preliminary due to only a part of the group of patients being examined. In most cases there is an increase of glucose level in blood. It could be caused by an increased secretion of pituitary hormones which follows high level of stress during tooth extraction.

Woman or man — does it matter?

Katarzyna Fiołna, Wioletta Bielas, Konrad Juszczyzyn, Karol Koch

Students' Scientific Group, Department of Dental Surgery, Medical University of Warsaw

Head of the Clinic prof. dr hab. n. med. Andrzej Wojtowicz

Trustee of the paper: lek. dent. Szymon Frank

Introduction: Surgery is and always was a field of medicine dominated by men. It's related to the stereotype that men are better surgeons. A lot of features attributed to ideal surgeon are typically male, like strength, resistance and resilience, determination and a steady hand. These features make a surgeon more trustworthy for patients despite the fact that every surgical procedure arouses their fear and anxiety.

Aim: To assess patients' preferences concerning the surgeon's gender and the level of fear related to that.

Material and methods: A group of 200 patients (100 women and 100 men, age 15-88) who were admitted to the Department of Dental Surgery in Warsaw, was subjected to the study. The research was based on a survey consisting of 12 questions about patient's history of teeth extractions, their preferences concerning the surgeon's gender, their fear during the tooth removal (a modification of DAS scale) as well as the features of an ideal surgeon.

Results: 1. Although the majority of the patients do not confirm the stereotype that a man is a better surgeon, there are more patients who choose men over women. 2. Physical features of the surgeon are less important than kindness toward patients and understandable communication with them. 3. The gender of the surgeon does not matter among women who have never had an extraction, however, the majority of men in that group prefers a male surgeon.

Conclusions: At the base of the results from our research it appears that the stereotype of men who are better surgeons is no longer relevant, however, the patients who had a possibility to choose the surgeon's gender still prefer a male one.

Comparative assessment of primary dental implant stability

Monika Jodko, Joanna Abramczyk, Matgorzata Choromańska, Andrzej Kołciuk

Students' Scientific Group, Department of Dental Surgery, Medical University of Warsaw

Head of the Clinic prof. dr hab. n. med. Andrzej Wojtowicz

Trustee of the paper: lek. dent. Szymon Frank

Introduction: Measurement of primary implant stability is a basic procedure during the comprehensive implant treatment. Determination of high stability allows to immediately load the implant. Otherwise, low stability indicates the risk of implant loss. Among several measure methods especially noteworthy are insertion torque test, reverse torque test and measurement by using Periotest and Ostell devices. Periotest Values (PTV) contained between -8 and 50. The lower the value, the higher is the stability. The values for Ostell instrument are in the range from 0 to 100 ISQ (Implant Stability Quotient) and the best stability is achieved between 60-80 ISQ.

Aim: To investigate the degree of primary implant stability and to assess its value and variability, depending on type of thread, shape and length of the implant.

Material and methods: In the study ten different implant systems were used: NobelActive, NobelReplace, Astra Tech, Straumann Standard Plus, Straumann Bone Level, Osstem GS2, Osstem GS3, NanoTite Certain (Biomet 3i), Neoss and Adin. Almost 10 implants from each system have been inserted into purchased pig fibula bones, in accordance with individual procedure for each system. Stability of each implant was examined by two devices: Periotest and Ostell. Furthermore, reverse torque test was performed to more detailed implant stability evaluation.

Results: In the group of implants with classic thread type mean Periotest Values ranged from 1.8 to 11.5 PTV. The highest primary implant stability achieved Neoss, NobelReplace and Osstem GS2 implant systems. Mean values for Ostell instrument included between 40.22 and 64.7 ISQ. The best primary stability achieved NobelReplace, Osstem GS2 and Astra implant systems. In the group of implants with active thread type values ranged from -2.5 to 0.5 PTV and between 69.7 and 72.6 ISQ. The highest primary stability achieve successively NobelActive, Adin and Osstem GS3 implant systems.

Conclusions: Variable results indicate that thread geometry influences on primary implant stability. It should be emphasized that the primary stability is purely mechanical, and depends on implant impaction into bone tissue. Assessment of the stability allows to decide about immediate loading possibilities. At a later stage implant stability evaluation enables to get information about osseointegration process, which proper course is essential to successful treatment.

Trauma of oral cavity and maxillofacial structures — the use of mouthguards in martial arts

Katarzyna Mańka, Paulina Tokarska

Students' Scientific Group, Department of Dental Surgery, Medical University of Warsaw

Head of the Clinic prof. dr hab. n. med. Andrzej Wojtowicz

Trustee of the paper: lek. dent. Piotr Wesołowski

Introduction: Martial Arts are among the high-risk sports that involves huge number of orofacial injuries. Mouthguards should be an integral part of that type of sports. It is also crucial that the player knows what to do in case of sustaining a trauma during training and tournament -the appropriate response and prompt intervention of a specialist may help avoid unnecessary medical complications. Martial arts are often treated as a homogeneous group, in spite of differing significantly in terms fighting styles and rules of each competition. In order to plan the effective prevention of orofacial injuries one has take into consideration competitors motivation to use guards.

Aim: To define the frequency of oral injuries and use of mouthguards among martial arts fighters, to compare the frequency of injuries among different disciplines, motivations for the application of guards and to assess the level knowledge about the proper procedures in case of injury.

Material and methods: We conducted a questionnaire survey among 400 male and female fighters in kyokushin karate, shotokan karate, muay thai, taekwondo, boxing, kickboxing and judo.

Results: The most common injuries of the head and mouth areas in martial arts are soft tissue injuries - 33% of respondents; the second most widespread are tooth fractures ~ 10.75%. Bone fractures were listed by 6.5% of the respondents, enamel fracture occurred in 5.5% of cases, 3.75% of respondents had a tooth knocked out, 3% had a concussion. Dental intrusion or displacement of the tooth ~ 2%, other injuries - 5.5%. Most commonly chosen type of mouthguard was the "boil and bite" - 49% of the respondents, 41% did not use any mouth protector. Frequency of use of mouthguards does not depend on the skills level, but rather on the type of discipline. Martial arts competitors have little knowledge about the appropriate procedures in case of sustaining an injury.

Conclusions: The Martial Arts fighters can not be treated as a homogeneous group of mouthguards users because of different needs and different risk involved. Competitors do not have enough knowledge about the proper procedures in case of an injury. The level of awareness affects the injury frequency - perhaps campaigns aimed at increasing the awareness and the trauma prevention, as well as promoting the use of mouthguards could reduce the number of injuries.

Advantages of Cone-Beam Computed Tomography in comparison with conventional radiography based on case reports

Andrzej Miskiewicz, Katarzyna Fiołna

Students' Scientific Group, Department of Dental Surgery, Medical University of Warsaw

Head of the Clinic prof. dr hab. n. med. Andrzej Wojtowicz

Trustee of the paper: lek. dent. Szymon Frank

Introduction: Cone-Beam Computed Tomography is a modern tool for diagnostic radiology. It allows the user to create a layered image in three dimensions. A proper medical examination not only includes anamnesis and physical examination, but also a radiographic diagnostic examination. Conventional X-ray techniques show a summation effect, which limits a surgical treatment plan. Layered techniques, like CBCT, are an alternative for patients whose clinical and conventional radiological examination is not clear. A correct diagnosis, broadened with adequate diagnostics, allows to determine the optimal surgical treatment.

Aim: The aim of this study is to present the usefulness of the CBCT imaging method in oral surgery and to determine indications for use of the CBCT.

Material and methods: This analysis consists of a group of patients undergoing surgical treatment at the Department of Oral Surgery at MUW. Thorough clinical examination and conventional X-ray techniques were insufficient to make a final diagnosis. It was considered appropriate to perform a CBCT examination. In all of the cases, analysis was performed on obtained classical summation technique X-rays and CBCT pictures executed at the Department. Obtained images were analyzed and compared with the clinical examination. This combined information enabled the doctors to develop a proper treatment plan in all of the cases.

Results: CBCT is a radiographic examination, which allows for precise visualization of the hard tissues of the mouth. Furthermore, it allows the user to magnify and fortify contrast of the examined area and to establish a proper surgical treatment plan. Moreover, the CBCT has a reduced dosage of soft radiation which allows the user to use the ALARA principle.

Conclusions: In certain cases, thorough clinical examination is inconclusive to make a final diagnosis. Standard summation X-ray techniques are useful only so far in radiological diagnostic examination. This technique is unable to differentiate between different radiolucencies, which may be result of a trauma, encapsulated granuloma, radicular cyst, or hypomineralization of tooth's hard tissues and periodontium. Up-to-date digital techniques of radiological examination, such as the CBCT, allow to establish a proper diagnosis by correctly differentiating focal radiolucencies. The drawback is a low consciousness of these techniques in dental practitioners society.

Evaluation of bone regeneration following surgical closure of oro-antral perforation using Cone Beam Computed Tomography - CBCT

Sandra Radecki, Sara Shamsa

Students' Scientific Group, Department of Dental Surgery, Medical University of Warsaw

Head of the Clinic prof. dr hab. n. med. Andrzej Wojtowicz

Trustee of the paper: P. Nieckula, DDS, P. Wychowański, MD, DDS, PhD, B. Marczyński, DDS, PhD

Introduction: The most common method of providing communication between maxillary sinus and oral cavity is upper premolar or molar extraction due to the proximity of their roots to the antrum and the thinness of the sinus floor in this area. Currently, the crucial factor to assess treatment success in all patients is the volume of bone regeneration in maxillary alveolar process.

Aim: The aim of this study was to assess the efficacy of the surgical treatment of the oroantral perforation OAP following maxillary posterior teeth extraction.

Material and methods: The study was performed in 20 otherwise healthy patients, their age ranging between 20 and 50 years. As the OAP was diagnosed, it was sutured closed by Wassmund and Borusiewicz method. At review 10 days after the procedure, the patients were examined according to the operators questionnaire which contained the following information: general patients condition, a local evaluation of the postoperative wound, CRP, ESR and WBC level. Every patient received the same recommendations as well as the same pharmacotherapy. The assessment of postoperative defect and bone regeneration progress were conducted on the basis of CT performed 3 days and 6 months after the surgery.

Results: In the present study, management of OAP was performed using methods provided in dental practice. Based on the results obtained, the quantitative and qualitative analysis of bone condition was conducted. Insignificant bone regeneration was observed.

Conclusion: The Wassmund and Borusiewicz method ensures a constant closure of oro-antral communication.

Uncommon location of oral lipoma - case study

Martyna Czerkies, Konrad Juszczyzyn, Eliza Krzyżanowska, Adrian Mierzwa

Students' Scientific Group, Department of Dental Surgery,

Medical University of Warsaw

Head of the Clinic prof. dr hab. n. med. Andrzej Wojtowicz

Trustee of the paper: lek. dent. Szymon Frank

Introduction: Lipoma is a benign neoplasm of connective tissue. It consists of lipid cells. Mostly appears as single, soft, movable tumor well separated from surroundings. Lipoma grows slowly and painlessly, achieving large sizes. Most frequent location is subcutaneous tissue of nuchal or intrascapular region. It also appears in proximal segment of limbs. Oral lipoma occurs rarely, mainly in tongue, buccae and floor of the mouth.

Aim: The subject of this study is a case of rarely occurring lipoma located in oral vestibule of mandible in proximity to lower central incisors (31, 41).

Material and methods: Due to clinical suspicion of lipoma patient was qualified for surgical treatment. Under local anaesthesia the tumor with its fibrous capsule was completely removed (enucleated). The wound was sutured. There were no complications during the operation.

Results: The initial diagnosis was confirmed by histopathological examination: Lipoma diam. 2 cm, Excisio completa. Follow up examination after 7 days revealed a proper healing progress.

Conclusions: Despite its rare location, the procedure described herein was conventional. Surgical excision with histopathological examination is the treatment of choice. The risk of recurrence is minor.

The comparison of primary stabilization of dental spiral and straight - screw implants of A.B. Dental Devices Implant System

Izabela Kozak, Izabela Sidor, Agnieszka Sarnowska, Michał Kornet, Aleksander Szczepanowski

Students' Scientific Group, Department of Dental Surgery, Medical University of Warsaw

Head of the Clinic prof. dr hab. n. med. Andrzej Wojtowicz

Trustee of the paper: Paweł Nieckula, DDS, Piotr Wychowański, PhD, Bartosz Marczyński, PhD

Introduction: Nowadays implants are common form of dental restoration, providing force distribution in the mouth comparable to the physiological. Currently spiral and straight-screw implants are widely used, but there is a disagreement, which shape of the implant provides the best mechanical anchorage in the bone. The main advantages of straight-screw implants are endurance and wide treatment indication. The first spiral implants were designed for immediate implantation after extraction. They provide pressure on the bone in regions with poor bone qualities.

Aim: The aim of the study is a comparison of primary stabilization of spiral and straight-screw A.B. Dental Devices implants depending on the size and the technique of the implant cradle preparation.

Material and methods: In this study spiral implants - I group, and straight-screw implants - II group were used. Implants parameters were shown: platform diameter (in mm) 3,75-4,2-6,0 and implants length (in mm) 8-115-16. The implants were inserted into isolated pork shoulders. The pork

shoulders were scanned with computed tomography. Before implants' installation all porcs houlders were marked by guttapercha points what allows to evaluate compact bone thickness, trabecular and compact bone density in marked places. The implants cradles were prepared by cylindrical and conical drills for length fixed by the implant's length: 1 platform 3.75 mm in diameter - drills: 2 mm → 2.8 mm → 3.2 mm; 2 platform 4.2 mm in diameter- drills: 2 mm → 2.8 mm → 3.2 mm → 3.65 mm; 3 platform 6 mm in diameter- drills: 2 mm → 2.8 mm → 3.2 mm → 3.65 mm → 4.3 mm → 5.2 mm. All drillings were performed using the same physiodispenser with the speed of 800 drills per minute. During the installation of the implants, a torque by a dynamometric key was measured. After the implantation each implant was examined by Periotest to assess initial stability. Next, each implant was removed from the bone and the force essential to take it out was determined. Measures were conducted three times for each implant. Results were averaged and statistically analyzed.

Results: The values of force essential to take out spiral implants are greater than the values of force essential to take out screw implants given the same parameters.

Conclusions: On the basis of research carried out, spiral implants ensure better primary stabilization.

Tooth extraction from a tumor - case study

Joanna Gromak, Emil Korporowicz

Students' Scientific Group, Department of Dental Surgery, Medical University of Warsaw

Head of the Clinic prof. dr hab. n. med. Andrzej Wojtowicz

Trustee of the paper: Małgorzata Secomska, MD, Piotr Wesołowski

Introduction: It is important to consider every possible case of a single tooth mobility in young patients. There are many causes of tooth mobility: traumas, periodontitis, osteitis, root resorption, cysts, malocclusion and tumors.

Aim: The aim of this study is to sensitize clinicians to necessity of extending diagnostics, when abnormal tooth mobility is observed.

Material and methods: 32-year-old patient with no significant medical history presented with swelling of a left alveolar process of the jaw. It has been noticed two months earlier, without any corresponding symptoms, except a twinge in that area. As the patient recalls, he had observed a mobility of a single tooth (27) six months prior to this examination, and consulted with the dentist. Erupting (28) was claimed responsible for the mobility of (27), which was extracted afterwards.

Results: Clinical examination revealed an extensive (4 cm diameter), highly consistent tumor. It covered an area between (24) and (28) teeth. Muccus membrane was light-pink, with ulcerations

around (28). Pantomographic picture and CBCT scans were taken, and confirmed the presence of the tumor. Patient was referred to the institute of Oncology for further diagnostics and treatment.

Conclusion: Every case of a single tooth mobility should be thoroughly considered.

The dilemma of the dentist in evaluating the risk of oro-sinus connections during the extraction of posterior teeth in the maxilla on the basis of flat X-ray pictures

Agata Piechal, Anna Mydlak, Anna Żaglewska, Patrycja Ostapiuk

Students' Scientific Group, Department of Dental Surgery, Medical University of Warsaw

Head of the Clinic prof. dr hab. n. med. Andrzej Wojtowicz

Trustee of the paper: Piotr Wesółowski, MD

Introduction: Extractions of teeth are the most common procedures in oral surgery. In the case of lateral tooth extraction in maxilla there is a risk of oro-sinus communications. This complication most often relates to the first and second molars and the concern of both patients and the doctor performing the surgery. The possibility of emergence of oro-sinus depends on anatomy, the extent of periapical lesions, the mucosa of the maxillary sinus, the patients age, his health and the extractions.

Aim: The aim of this study was to determine the prevalence of oro-sinus connections, after extraction of maxillary posterior teeth for the analysis of radiological images: photos of teeth, pantomogram before surgery.

Material and methods: The study analyzed clinical cases of maxillary teeth removed, which occurred in the probability of the merger of oro-sinus on the basis of X-ray. Patients were in different age groups, were burdened with various systemic diseases, and also have different symptoms and causes of tooth extraction. The study used radiological images — dental and pantomogram, including a projection on the posterior roots recess alveolar maxillary sinus.

Results: The study showed that the complication in the form of a combination of oro-sinus rarely occurs in practice in relation to the frequency of projection of the roots of posterior teeth in the jaw for recess alveolar maxillary sinus. Only a few percent of clinical cases of maxillary lateral tooth extraction could call oro-sinus as a complication of solvent extraction.

Conclusions: 1. The possibility of formation of oro-sinus connections to the teeth and photographs is not sufficient to 100% assessment of the possibility of a merger of oro-sinus at the junction. 2. In order to accurately determine the possibility of occurrence of oro-sinus connection dentists should use the CT technique in selected cases.