

Effect of Fixed Metal Partial Dentures on Serum Nickel Level

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ORIGINAL PAPER (OP)

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SUMMARY

Base metal alloys containing nickel-chromium are widely used in dentistry. However, nickel and chrome metal elements may have carcinogenic potential. It is known that nickel ions are released from the fixed restorations as a result of corrosion and they are mixed into the circulation by absorption from gastro-intestinal or oral mucous membrane. The aim of this study was to determine the nickel levels in patients' sera before cementation and 3 months after cementation of the fixed partial dentures made of metal-ceramic or metal-acrylic resin. 20 patients were examined for this purpose. Nickel levels were determined by atomic absorption spectrophotometer using patients' venous blood samples.

The results showed that nickel levels in venous blood samples were increased after 3 months in both metal-ceramic and metal acrylic resin fixed partial dentures; this increase was statically significant.

Key Words: Nickel, sensitivity; Nickel, serum concentrations

Comparison of Fracture Strength of Full Ceramic Crowns with Ceramo-Metal Restorations*

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ORIGINAL PAPER (OP)
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SUMMARY

Full ceramic materials have become the most promising materials in dentistry due to their superior aesthetic features. The aim of this study was to evaluate and compare the fracture strength of 3 types of full ceramic crowns (In-Ceram, IPS-Empress, Biofibral) with a metal-ceramic combination. A total of 40 premolar tooth shaped specimens, 10 from each material, were prepared. An Instron testing machine was used for compressive strength testing. The highest mean compressive strength value obtained from the metal-ceramic system with a 1377.88 N/mm².

In-Ceram crowns displayed the greatest resistance to fracture within the full ceramic systems. The results were subjected to ANOVA for comparison to identify significant difference ($P<0.01$) between the mean fracture strength values of the 4 groups tested. Newman-Keuls test was used for paired comparison, and a significant difference ($P<0.05$) was found between the mean values. Although the resistance to fracture of these full ceramics is not high as well as metal-ceramic combination in this study, the mean compressive strength values of all 3 full ceramics may be accepted satisfactory, especially for the certain region of mouth where very high fracture strength values are not required. It has been indicated that full ceramic crown systems should be the main treatment approach for restoration of anterior teeth prior to conventional metal-ceramics.

Key Words: Full Ceramic Crowns; Fracture Strength

* Presented at the 21st Annual conference of EPA, Denmark, 1997

A Comparative Study between Methods for the Selection of Anterior Maxillary Teeth*

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ORIGINAL PAPER (OP)
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SUMMARY

The width of the 6 maxillary anterior teeth plays a major role in the aesthetic appearance of the patient and must be taken under consideration in the design of full dentures. The aim of this study was to compare 2 methods of assessment of the width of the 6 maxillary anterior teeth with the real width to patients who retained their teeth. Measurements were taken from 100 patients of the Dental School of Athens. These patients were over 45 years old but retained their natural teeth without having periodontal disease. 3 measurements were taken from each patient with the same gauge: (a) The real width of the six maxillary anterior teeth from the distal surfaces of the upper canines; (b) The width of the maximum smile; (c) The width of the projection to the upper canines of the 2 lines drawn from the inner canthus of the eye and the ala of the nose. In technique *b* the width of the 6 maxillary anterior teeth was calculated using the golden rule. In technique *c* the width of the 6 maxillary anterior teeth from the distal surfaces of the canines was calculated by the addition of 4 mm. One way ANOVA was employed for the statistical analysis of the results.

Overall, the results showed that there were no significant differences between the 2 methods (*b* and *c*) and the real width of the 6 anterior teeth. The clinical significance of this study is that both methods can be used for the assessment of the width of the 6 maxillary anterior teeth when artificial teeth must be selected for the construction of full dentures.

Key words: Dental Aesthetics; Tooth Selection; Complete Dentures

* Presented at the 6th Congress of the BaSS in Bucharest, 2001

In Vitro Determination of Antimicrobial Effects of Calcium Hydroxide Containing and Chlorhexidine Containing Gutta-Percha Points*

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**ORIGINAL PAPER (OP)
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SUMMARY

The objective of this study was to determine the antibacterial effect of gutta-percha points containing calcium hydroxide (Calcium Hydroxide Plus Point) and 5% chlorhexidine diacetate (Activ Point), and calcium hydroxide paste. The selected microorganisms were: Streptococcus mutans, Enterococcus faecalis, Lactobacillus casei, Bacillus subtilis and Staphylococcus aureus. Pre-sterilized paper points covered with the calcium hydroxide paste and gutta-percha points were placed onto the previously seeded agar petri-plates. Each plate was incubated aerobically. A zone of inhibition was recorded for each plate and the results were analysed. The results demonstrated that Ca(OH)₂ paste and Activ Point had antibacterial effects on the selected microorganisms whereas Calcium Hydroxide Plus Point did not showed antibacterial effect with the this study.

Key words: Calcium Hydroxide; Chlorhexidine; Antimicrobial effect

* Presented at the 6th Congress of the BaSS, Bucharest, 2001

In Vitro Cytotoxicity of 5 Dentine Adhesive Systems

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ORIGINAL PAPER (0P)
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SUMMARY

Dentin adhesives are placed directly on dentin wound from which the smear layer has been removed. Considering that dentin permeability is responsible for pulpal reactions, in this study we investigated the cytotoxic effect of primer and bond components of several dentin adhesive system (DAS) agents in an originally designed experimental model that included the analysis of post-diffusive and direct effects immediately, 24 hour, and 76 hours after the contact with a highly sensitive *in vitro* living test system containing L 929 fibroblasts. 20 intact premolars were used and the primers or bonds were placed in cavities, allowing a 24 hour contact with the roof of the pulpal chamber, and 1 mm thick dentin separating it from the culture medium (CM) in micro-wells. CM from this experimental group, experimental groups containing directly added DAS components, as a positive control, teeth only or just CM, as a negative control, were then transferred into micro-well plates with L929 cells.

The obtained results indicate that the post-diffusive effects of DAS components lead to an increasing, time-dependent, inhibition of L929 cell proliferation and that this effect is more pronounced in the direct presence of different concentrations of DAS. The *in vitro* observed toxic effects of DAS components should be less pronounced *in vivo* considering the fact that in healthy pulp the exchange of extra-cellular fluid is fast which reduces the possibility of toxicity. Therefore, it is necessary to perform *in vitro* investigations to obtain an understanding of the optimal characteristics of dental materials which can improve the ability to develop more biocompatible material.

Key words: cytotoxicity, dentin-adhesive system, diffusion, fibroblasts

The Comparison of Bitewing and Parallel Radiographs for Detecting Caries Lesion

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ORIGINAL PAPER (OP)

Balk J Stom, 2003; 7:27-29

SUMMARY

Clinical diagnosis of approximal caries lesions is more difficult than the other caries lesions. For this reason, the diagnosis of approximal caries lesions has been supported with radiographic examination. Many radiographic techniques are used for diagnosing caries lesions: bitewing, parallel and bi-section radiographs, as intraoral, and panoramic radiograph, as extraoral. This paper compares bitewing and parallel techniques for detecting (examining) approximal caries lesions.

From the total of 64 patients, 90 bitewing (left-right) and 180 parallel (left-right, maxilla-mandible) radiographs were taken. The observer examined the radiographs independently at a dark room on a standard view-box. The observer assessed the radiographs as enamel, dentin, depth dentin, cement, recurrent caries and occlusal, buccal or lingual caries individually. The result of the study showed that the bitewing technique was more useful than the parallel technique in detecting of the caries (especially enamel caries).

Key Words: Radiographs, Bitewing; Radiographs, Parallel; Caries

Clinical Comparative Evaluation of the Accuracy of the Electronic Apex Locators ROOT-ZX and JUSTY-II in the Working Length Measurement of 50 Single Rooted Teeth

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**ORIGINAL PAPER (OP)
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SUMMARY

Clinical comparative evaluation of the accuracy of 2 electronic devices, Root-ZX and Justy-II, was carried out in a total of 50 root canals of mandibular single rooted teeth (permanent dentition) with vital pulp tissue. The normal procedure was followed, which included pre-operative radiograph, access opening, pulp removal and estimation of the working length with a second radiograph. After irrigation of the root canals with 2.5% NaOCl, the working length was estimated using Root-ZX with a Kerr No 15 file. Following the same procedure, the working length was estimated using Justy-II with the same file. The values obtained through the second radiograph were used for the evaluation of accuracy of the named devices, although it is well known that absolute comparisons can be made only with the actual working length directly measured after extraction of the teeth.

The results regarding the percentage of accuracy found for Justy-II were 84%, and for Root ZX were 88%, with clinically acceptable estimation within $\pm 0,5$ mm. In conclusion, the representatives of the latest generation of electrometric devices (Justy-II and Root ZX) offer very high accuracy in working length estimation.

Key words: Root Canal Length; Electronic Apex Locators

An Investigation of the Ethanol Content and pH of Proprietary Mouthwashes*

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ORIGINAL PAPER (OP)
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SUMMARY

Objective. There have been pertinacious suspicions about a possible link between oral diseases, including cancer, and excessive and frequent use of mouthwashes with high ethanol content and acidity. This paper reports the results of an investigation into the ethanol content and acidity of proprietary mouthwash products available on the Turkish market.

Materials and Methods. The alcohol contents of 10 proprietary mouthwashes were tested as a percentage of alcohol (v/v) by gas chromatography, and the pH of the mouthwashes was determined by a pH-meter.

Results. The ethanol contents of the mouthwashes ranged between 0.0 to 14.78% (v/v); however the results were mostly around 7.36 - 9.52% (v/v), median = 8.3 %. The pH range of the proprietary mouthwashes tested was 5.72 - 7.3 (median = 6.58).

Conclusion. The ethanol contents and pH of the mouthwashes were within the range reported in the literature. However, it is possible to conclude that it may be in the interest of public dental health to promote the use of mouthwash products with low ethanol content and acidity.

Key Words: Mouthwash; Ethanol; pH

* Presented at the 4th Congress of the BaSS, Istanbul, 1999

The Prevalence of Oral Diseases in Children in Tirana, and the Impact of Social, Economic and Demographic Factors in Their Frequency After the Year '96

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ORIGINAL PAPER (OP)
Balk J Stom, 2003; 7:37-39

SUMMARY

The aim of this epidemiological study was to define the oral status (prevalence of dental caries, periodontal diseases and trauma to the incisors) of 6, 12 and 18-year-old children in Tirana in 98s. For each respective age following parameters were defined: percentage of caries-free and gingivitis-free children (6-year-old), DMFT index, FT/MFT index, percentage of gingivitis-free (12-year-old), and DMFT index, MT indicator, percentage of people with 3 healthy sextants (18-year-old). For all ages the percentage of trauma to incisors was also defined. The second and the most important aim of the study consists in the assessment of the association of the social-economic factors (education and occupation of the children' parents, family income, access to fluoridated toothpaste's), the demographic factors (region, the urban/local areas), the care for teeth and mouth (attendance and access to the dentist, oral hygiene and tooth-brushing, sugar consumption) and the level of dental services (through FT/DMFT index), with the abovementioned diseases.

Key Words: Caries; Periodontal disease; Trauma to Incisors

Comparative Cephalometric Study of Young and Adult Patients with Anterior Open Bite

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ORIGINAL PAPER (OP)
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SUMMARY

The purpose of this study was to identify, through cephalometry, the structures of the maxillofacial system that change or remain stable through aging, thus contributing to the deterioration, maintenance or improvement of patients with anterior open bite. Values of 14 cephalometric measurements and 2 ratios defining the vertical dimension of the maxillofacial system were obtained from a group of 45 young and a group of 45 adult patients with skeletal anterior open bite. Measurements from both groups were then compared.

The general conclusion drawn from this study was that anterior open bite in adult patients has a milder expression on the vertical skeletal and dental relationships.

Key words: Anterior Open Bite; Cephalometry

Neoplasms of Minor Salivary Glands: A Clinical and Pathological Study

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ORIGINAL PAPER (OP)
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SUMMARY

The purpose of this retrospective study was to record and analyse both clinical and pathological features of the minor salivary glands neoplasms that have been diagnosed in the department of Oral Medicine/Pathology of the Aristotle University of Thessaloniki, Greece.

Totally 70 cases of salivary gland neoplasms were found. 39 cases were characterized as benign while 31 as malignant neoplasms. The most frequent type of benign neoplasms was pleomorphic adenoma (45%). Mucoepidermoid carcinoma was found to be the most frequent type (12.8%) of malignant neoplasms. The most common site of localization both in benign and malignant neoplasms was the palate (22% and 12% respectively). Benign neoplasms occurred more frequently in females of fifth decade. Malignant neoplasms were more frequent in males of sixth and eighth decades. Benign neoplasms were also found to be more frequent from the malignant neoplasms

Key words: Neoplasms, salivary glands

Prosthetic Rehabilitation of Patients with Congenital Cleft Lip and Palate

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CASE REPORT (CR)
Balk J Stom, 2003; 7:49-51

SUMMARY

Most congenital cleft lip and palate patients require more specialized and continuing prosthodontic services, as compared to non-cleft patients. There are several reasons for this additional care. The teeth in the premaxilla usually have shorter and poorly developed roots. In addition, cleft lip and palate patients are likely to have supernumerary or other missing teeth. The jaws of cleft individuals tend to be smaller, especially the maxilla. The dentition may be crowded with an irregular alignment because of the lack of space. Thus, with the potential for missing and/or malformed teeth and abnormal growth and eruptive patterns, most congenital cleft patients require more prosthodontic care during their lifetime. However, definitive prosthodontic care is customarily one of the final treatment modalities in the progression of treatment from birth to early adulthood. Therefore, maxillofacial surgical and prosthodontic treatment must be carefully coordinated to ensure the best results for congenital cleft patients.

Key Words: Congenital cleft lip and palate, treatment

Solid Sarcoid Lesion of the Sublingual Salivary Gland. Report of a Case

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CASE REPORT (CR)

Balk J Stom, 7:52-55

SUMMARY

This paper presents a case of an oral sarcoid lesion of the sublingual gland, with a rather unusual clinical appearance, and highlights the important role of the oral practitioner for the differential diagnosis between sarcoidosis and sarcoid lesions.

Key words: Sarcoidosis; Local Sarcoid Lesion; Sublingual Gland

An Extraordinarily Large Submandibular Salivary Gland Calculus*

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**CASE REPORT (CR)
Balk J Stom, 2003; 7:56-58**

SUMMARY

Sialolithiasis means formation of calcified structures in salivary glands and at the salivary ducts. The condition often occurs in the submandibular gland. Occasionally the stone presents no remarkable symptoms and the only evidence may be a firm mass palpable in the duct or gland. Sialolithiasis may occur at any age, but it is most common in middle aged adults. Small calculi may sometimes be removed by manipulation. The larger stones almost always require surgical exposure for removal.

In this report, a 40-year-old man with large calculus in the submandibular salivary gland is presented. The calculus was triangular in shape and it was remarkable for its size being 24mm x 24mm 15.9mm. It weighed 9.712 g.

Key Words: Sialolithiasis; Submandibular Salivary Gland

* Presented at the 5th Mediterranean Congress of Oral and Maxillofacial Surgery, Sicily, 1999.

Uncommon Metastases in the Maxillofacial Area

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CASE REPORT (CR)
Balk J Stom, 2003; 7:59-62

SUMMARY

Purpose: It is the aim of this report to present uncommon localizations of metastatic carcinomas to the maxillofacial region.

Patients and Methods: 3 cases presented in our clinic with metastatic disease that was not evident until a biopsy was performed.

Results: A case of adenocarcinoma, of unknown primary, was located in the retro-zygomatic area. Another case was metastatic from the endometrium to the mandibular angle, below the neurovascular bundle and the last case was metastatic from the breast that simulated trigeminal neuralgia.

Conclusions: Metastatic lesions in the maxillofacial area represent 1% of malignant tumors and in 22% of the cases are the first indication that a primary exists somewhere else. The primary is located more often in the lungs or the breast. They represent an indication of generalized disease and are treated accordingly.

Key words: Metastasis; Adenocarcinoma; Trigeminal Neuralgia

Melkersson Rosenthal Syndrome: A Review and Report of a Case

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**CASE REPORT (CR)
Balk J Stom, 2003; 7:63-65**

SUMMARY

Melkersson Rosenthal Syndrome (MRS) it is an autosomal recessive disorder, which is characterized by orofacial swelling, replacing facial paralysis and fissured tongue. The classic triad is not always present at the same time, and the disease may be seen as incomplete forms. In this article we reported a 24-year-old man presented to the Oral diagnosis and radiology department for evaluation of a swollen upper lip that had been present for 6 months. The histopathologic study of the lip was done. Estimated incidence and common characteristic of MRS are described in conjunction with a case report.

Key Words: Oedema, recurrent orofacial; Paralysis; Lingua plicata

How to Make Writing in English Easier for Non-Anglophone Authors

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INFORMATIVE PAPER (IP)

Balk J Stom, 2003; 7:66-70

SUMMARY

We wished to point out the most frequent problems that non-English authors are faced with when attempting to write biomedical or other scientific papers in English. Clarity and precision in writing can be achieved with appropriate style, correct grammar usage, by avoiding unneeded words and phrases, abstract nouns and jargon. Understanding the English idiom is also of great importance to escape mechanical translations and use of non-English expressions.

Key Words: Language, English; Biomedical Sciences; Writing