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ABSTRACT

A randomized clinical trial study comparing efficacy between two salivary substitutes in radiotreated patients for head and neck cancerG. Rivetti, G. Gassino, M. Carossa, N. Bocca, P. Ceruti, F. Bassi
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BACKGROUND: Management of xerostomia following radiation therapy is difficult. When residual gland function remains it may be possible to stimulate gland function by means of local measures or with systemic medication. When saliva cannot be stimulated, use of wetting agents or salivary substitutes are considered. The aim of this study is to compare differences in salivary flux, salivary pH and VAS in patients using two types of salivary substitutes, Hydral Gum® and Biotene®, before and after the radiotherapy in order to identify the most satisfactory for the radio-treated patients, to keep the oral conditions under control and to guarantee the best possible lifestyle to the patient.

METHODS: Subjects were recruited from patients starting the radiation therapy to the head and neck at Città della Salute e della Scienza di Torino. The patients have been divided randomly in group A (Biotene®) and group B (Hydral Gel®). At T0 salivary flux and pH before radiotherapy were registered; at T1, one month after the beginning of radiotherapy, results of VAS scale have been collected; at T2, two months after the end of radiotherapy, salivary flux, pH and VAS have been registered. Criteria of inclusion were diagnosis of head and neck tumors, need of radiation therapy, age between 18-75, minimum 10 teeth. Patients with preexistent hyposalivation, radiotherapy already started, advanced periodontal disease, diabetics and severely debilitated patients with advanced tumors (stage IV) or treated only with surgery or chemotherapy has been excluded. Patients were motivated and instructed to the correct techniques of oral hygiene, and to use the oral gel a minimum of four times a day. Whole unstimulated saliva was collected in the morning for 5 min and paraffin-stimulated saliva was collected after 5 min at each visit; pH measurements and the buffering capacity has been recorded. Patients were asked to record the severity of symptoms using visual analogue scales (VAS) for the following symptoms: dry mouth at rest/when eating, difficulty speaking/swallowing due to dry mouth, altered taste.

RESULTS: A group of 26 subjects (23 men and 3 women, medium age 55 years old) were recruited. Every test has a 5% level of significance, the maximum error that allows to make is 0,05. Data from both groups have been analyzed using T-student test: 1) Group A (Biotene®): VAS T1-T2 p value > 0,5; salivary flux T0-T2 p value < 0,5; salivary pH T0-T2 > 0,5; 2) Group B (Hydral Gel®): VAS T1-T2 p value > 0,5; salivary flux T0-T2 < 0,5; salivary pH T0-T2 p value > 0,5; 3) Comparison between group A and B reveals p value > 0,5 at T2 for VAS, p value > 0,5 at T2 for salivary flux, p value > 0,5 at T2 for salivary pH.

CONCLUSIONS: The statistical analysis reveals 1) in Group A no significant differences for salivary flux and VAS but statistically significant improvement of salivary flux 2) in Group B no significant differences for salivary pH and VAS but a significant improvement of salivary flux 3) no differences between substitutes A and B at T2 for VAS, salivary flux and salivary pH. However, patients went through an improvement assessable from the statistical analysis of the single group; patients from both groups reported improvement in swallow, speaking, dysphagia and gum burning. The study underlines how continuative use of salivary substitutes improves the quality of life of patients undergoing radiation therapy of head and neck.

Risk factors between I, II, III class occlusion and periodontal disease: appraisal through TC-Cone Beam

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BACKGROUND: The aim of this study is to measure the periosteal bone loss of some dental elements, previously chosen as benchmarks, in the I, II and III skeletal class and to evaluate the correlation between malocclusion and periodontal disease. **METHODS:** 90 TC-Cone Beam of healthy patients, between the ages of 14 years and 20 years, in the pre-orthodontic phase will be examined. 30 of these TC-Cone Beam will be related to patients with I skeletal class, 30 with II skeletal class and 30 with III skeletal class. The TC-Cone Beam for each group studied will be randomly selected. Some dental elements will be taken as samples for each patient. Maxillary and mandibular dental incisors (11, 21, 31, 41), maxillary and mandibular canines (13, 23, 33, 43) and maxillary and mandibular first permanent molars (16, 26, 36, 46) will be the samples. Through the use of the Materialise 3-matic software, the distance between the cemento-enamel junction (CEJ) and the alveolar bone will be evaluated considering all the sites of the dental elements: disto-vestibular, vestibular, mesio-vestibular, distal-lingual / palatal, lingual / palatal and mesio-lingual / palatal. If a correlation between a specific skeletal class and periodontal disease is noticed, in vivo studies will be performed in order to confirm what has been noted in TC-Cone Beam. In the oral clinical examination will be evaluated periodontal disease in relation to some indices like FMPS (full-mouth plaque score), FMBS (full mouth bleeding score), loss of attachment, gingival recession, mobility and furcations. The dental elements considered in this exam are the same of the evaluation on the TC-Cone Beam.

RESULTS: The study of TC-Cone Beam relative to the bone level of the dental elements taken into consideration could reveal a correlation between malocclusion and periodontal disease in pre-orthodontic patients. There could also be a different incidence of bone defect between I, II, III skeletal class. **CONCLUSIONS:** It is important to evaluate the periodontal parameters in patients in the pre-orthodontic phase to intercept any problems related to the skeletal class. In this way it may be possible to draw up personalized protocols during the orthodontic treatment plan in order to prevent any periodontal risks.

Treatment of periodontal pockets with hydrogen peroxide and hyaluronic acid: evaluation of oral microbiota

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BACKGROUND: Evaluation of the oral microbiota after treatment with hydrogen peroxide and hyaluronic acid, of periodontal pockets in order to alleviate the pain symptoms, reduce the pathogenic bacterial load, the probing depth and reduce bleeding in the survey.

METHODS: 25 adult patients of both sexes are randomly

selected. The patients under examination are treated with two product applications at a distance of 5 minutes from each other, 1 mL of hydrogen peroxide undiluted and 1 mL of hyaluronic acid undiluted at application, performed by sterile syringe directly inside the periodontal pockets greater than 3.5 mm of multirooted and monoradicular elements. During the first visit (T0) and / or after a week from the latter (T1), the quantitative bleeding (FMBS) and semi-qualitative (IS) indices will be performed, considering six surfaces per tooth, the latter using four different codes:

- Code 0: absence of bleeding on probing;
- Code 1: presence of bleeding on probing, without redness and edema;
- Code 2: bleeding on probing with redness and edema;
- Code 3: spontaneous bleeding.

Furthermore, the quantitative (FMPS) and semi-qualitative plaque indices of Silness J & Loe H (IP) will be calculated considering six surfaces per tooth; the latter attributing four different codes:

- Cod.0: absence of plaque;
- Cod.1: 1/3 of the dental surface covered with plaque;
- Cod.2: 2/3 of the dental surface covered with plaque;
- Cod.3: greater than 2/3 of the dental surface covered with plaque.

Moreover, before washing the pocket (T0) and after 5 minutes from the last application of the solution (T1) a bacterial plaque pick-up will be performed, positioning a periopaper for 30 seconds inside one of the periodontal pockets with greater probing depth, processed in PCR-Real-Time.

Painful symptomatology is evaluated by administering two different tests:

Numerical Reating Scale - NRS (Downie, 1979; Grossi, 1983);

Visual Analogical Scale - Vas (Scott Huskisson, 1976);

Verbal Rating Scale - VRS (Keele, 1948; successive validations JPSM, 2002).

RESULTS: The formulation thus constituted seems to possess antibacterial and hemostatic action and alleviate painful symptoms.

CONCLUSIONS: After treatment of periodontal pockets, it is therefore advisable to wash with hydrogen peroxide, hyaluronic acid and glycine to relieve painful symptoms, reduce the pathogenic bacterial load and bleeding on probing.

Oral health in the population held at the third district house of rebibbia

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BACKGROUND: The Third District House is a weakened custodial institution that houses drug addicts who want to participate in a recovery and rehabilitation program. The aim of the study is to evaluate the state of oral health of prisoners and the impact it has on the quality of life, bearing in mind that the problems related to the oral cavity are the most frequent among those associated with drug abuse.

METHODS: Three different questionnaires were used, admin-

istered in a face to face interview mode: EGOHID II - Full Standard Clinical Survey From 2007, which collects clinical data such as CPI and DMFT; Questionnaire OHIP-14, which assesses the quality of life in relation to oral health and the EGOHID Adult Questionnaire which collects data on various habits and lifestyles.

RESULTS: The survey was attended by 29 of the 32 prisoners present, with a compliance of 91%. The age of the participants ranges from 23 to 62 years, with an average age of 42.9 years. The population examined results to have a lower level of education and disadvantaged socio-economic conditions compared to the free Italian population. Furthermore, the survey showed that almost all the participants use tobacco; that 10 out of 29 prisoners are infected with Hepatitis C and 4 of them also have co-morbidities with HIV. The high incidence of these diseases is linked to substance abuse that involves 100% of the population, in which cocaine is the most widely used substance. Regarding the clinical data, the DMFT results to be equal to 15, of which the component of the decayed teeth is 5.1; that of the treated teeth 2.6 and that of the missing teeth 7.3. The latter value is probably linked to the lack of prosthetic rehabilitation services for prisoners. The CPI (Community Periodontal Index) shows that only 14% of subjects enjoyed periodontal health, while 19% had bleeding at the survey and 25% were detected periodontal pockets with depths greater than 6 mm. Although we have found negative oral health conditions, it seems that they have a low perception of the problems related to their oral cavity, not feeling any particular discomforts associated with them.

CONCLUSIONS: The investigation showed that the oral health of prisoners is precarious and oral hygiene is very poor. In this regard, it would be advisable to promote a prevention program in the prison context and a course of oral health education aimed at improving the care of oral hygiene and consequently preventing the diseases related to it. To this end, it might be useful to disseminate brochures from the various instructions for proper home hygiene and to distribute eligible devices in the interproximal oral hygiene penitentiary institutions. This preventive program would reduce the incidence of diseases, thereby decreasing the therapeutic interventions for their care and consequently their health care costs. Furthermore, it would increase the detainee's confidence and self-esteem, thus fostering the possibility of reintegration in an easier way within society.

Oral health and quality of life correlated in a population of female prisoners in the city of Latina

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BACKGROUND: For many years the WHO has dealt with the issue of prisoners health through the publication of specific reports that outline a picture made up of a rather young population suffering mainly from psychic, infectious and oral