



significantly decreased.

Conclusion: *Lactobacillus plantarum* WLPL04, a new strain, was isolated from a breast milk sample by a healthy woman and demonstrated several probiotic functions. *L. plantarum* WLPL04, has also been studied for its ability to survive (tolerance to acids and bile salts, survival in the simulated gastrointestinal tract, inhibition of pathogens, susceptibility to antibiotics, yield of exopolysaccharides) and probiotic properties (anti-adhesion of pathogens, protection from the harmful effects of sodium dodecyl sulfate and anti-inflammatory stress on Caco-2 cells). The results showed that *L. plantarum* WLPL04 has a broad-spectrum activity against gram-positive strains and gram-negative ones. In addition, a systematic review of the literature has shown that professional oral hygiene therapy associated with *L. brevis* probiotics is the best method of treatment and prevention for oral mucositis in patients undergoing chemotherapy and radiotherapy. Furthermore, *L. brevis* probiotic can inhibit periodontitis through modulatory effects on host response and periodontal microbiota. Consequently, probiotics represent an interesting option in the treatment of various pathological conditions, especially in the oral medical field. Finally, in this specific case, it allowed to avoid invasive surgical treatments or the replacement of the drug, thus improving the patient's quality of life.

Effect of 3 months dietary supplementation with omega-3 α -linolenic acid (ala) and polyunsaturated fatty acids (PUFAs) (Alphalife Freia Farmaceutici Srl) following scaling and root planing: a pilot study

Aspriello S.D.¹, Salvatorina Murgia M.S.², Casu C.³, Coiana C.⁴, Fais S.², Orrù G.², Piras Denotti A.⁵

¹ASD Dental Clinic Research, Pesaro, Italy

²Department of Surgical Sciences, Oral Biotechnology Laboratory, University of Cagliari, Cagliari, Italy

³DDS, Private Dental Practice, Cagliari, Italy

Professor of Periodontology, 09121 Cagliari, Italy

⁴DDS PhD, Associate Professor of Dental Medicine, Faculty of medical sciences of LUDS HEI foundation, Malta, Italy

Aim: Omega-6 (n-6) and omega-3 (n-3) Polyunsaturated fatty acids (PUFAs) are essential fatty acids (EFAs) and they cannot be synthesized by humans or other higher animals. A proportionally higher consumption of PUFAs can protect us against inflammatory diseases, cancer, cardiovascular diseases and other chronic diseases. The aim of this pilot study was to investigate the effect of 3 months dietary supplementation with Omega 3 α -linolenic acid (ALA) and PUFAs (alphalife Freia Farmaceutici srl)

following scaling and root planing (SRP).

Methods: Twenty-four participants with moderate chronic periodontitis following SRP were randomly divided into 2 groups to receive for 3 months: (1) 3g daily of alphalife (Freia Farmaceutici srl) (n = 12); (2) 3g daily of placebo (n = 12). Probing depth (PD), attachment level (AL), bleeding on probing (BOP) and modified sulcus bleeding index (SBI) were recorded at baseline and after 3 months.

Results: AL, PD, BOP and SBI were significantly improved in both groups after 3 months ($p < 0.001$). After 3 months AL improved significantly better in the test than in the control group ($p < 0.001$), also PD in the tendency ($p = 0.1$). BOP improved better in the test group after 3 months ($p = 0.065$).

Conclusion: In the human body, this polyunsaturated fatty acids (PUFAs) give rise to arachidonic acid (ARA, n-6), eicosapentaenoic acid (EPA, n-3) and docosahexaenoic acid (DHA, n-3) that play key roles in regulating body homeostasis. Locally acting bioactive signaling lipids called eicosanoids derived from these FAs also regulate diverse homeostatic processes. In general, ARA gives rise to pro-inflammatory eicosanoids whereas EPA and DHA give rise to anti-inflammatory eicosanoids. After 3 months of intervention, patients who received omega-3 fatty acids supplements compared with placebo had significantly better periodontal parameters. Furthermore, the adjunctive use of a dietary supplementation with omega-3 α -linolenic acid (ALA) and Polyunsaturated fatty acids (PUFAs) following SRP could have a key role in soft tissues periodontal healing.

Dental pathology in present-day and copper age samples

Murgia M.E.¹, Murgia M.S.², Casula E.³, Casu C.⁴, Fonzo O.⁵, Garau A.², Paglietti G.⁵, Orrù G.².

¹Private Practice, Cagliari, Italy

²Department of Surgical Sciences, University of Cagliari, Cagliari, Italy

³Department of Life and Environmental Sciences, University of Cagliari, Cagliari, Italy

⁴DDS, Private Dental Practice, Cagliari, Italy

⁵Archaeological Museum "Genna Maria" Villanovaforru, South-Sardinia, Italy

Aim: Dental paleopathology has become an excellent discipline to reconstruct the oral health of ancient populations and its trend from the past to the present day, especially regarding dietary habits. Our preliminary research aims to perform a comparative analysis on dental health status of two widely chronologically distant samples from Sardinia: the first one dates back

to the Copper Age (III mill. B.C.) and comes from a collective hypogean burial named Scab'e Arriu (Siddi, SU), the second one is composed by extracted teeth of present-day individuals, collected during some traineeships at the Department of Surgical Science of the Dentistry School, in Cagliari.

Methods: 259 archaeological permanent teeth from Scab'e Arriu (III mill. BC, Siddi, SU) and 90 contemporary permanent teeth from 88 patients at the academic clinic of Cagliari were included in the study. The ancient teeth are part of a larger sample that consists of a minimum number of 30 individuals (14 males and 16 females, all adults); present teeth were extracted from 88 patients (58 males and 30 females, averagely aged 51 years old). The archaeological teeth were found devoid of their anatomical support because of the bone deterioration. Carious lesions, dental wear and linear enamel hypoplasia of both samples were evaluated and compared. Dental evaluations were performed by using personal protective equipment, under artificial lighting source; teeth were examined with dental explorer Hu-Friedy EX23/66 and the parodontal probe Hu-Friedy PCPUNC 15; dental wear was recorded by using the Smith scale for both samples; linear enamel hypoplasia was recorded with a digital caliper and a magnifying glass 3-4x. Statistical tests were run by using the Chi-Square test on Social Science Statistics (<https://www.socscistatistics.com/>).

Results: 18% of the samples of Scab'e Arriu was affected by carious lesions, while the 78% had dental wear; 12% of teeth were affected by linear enamel hypoplasia. Indeed, 38% of the present samples is affected by carious lesions, while the 79% has dental wear; no individual is affected by linear enamel hypoplasia. Chi-Square tests performed on total amount of carious lesions, dental wear and enamel hypoplasia of both samples show a high significance ($p < .01$).

Conclusion: According to the World Health Organization, dental caries is a major public health problem: nearly half of the world's population got affected because of the preponderant consumption of complex carbohydrates, following the tertiary food processing. The frequency of the caries on the teeth from Scab'e Arriu is lower if compared to the present sample (18% versus 38%), as a result of lower consumption of processed foods. Therefore, the significance of the statistical result is not surprising ($p < .01$). Indeed, one curious aspect of Scab'e Arriu's sample is that the frequency of the caries is higher if compared to other prehistoric sites, and it would be interesting to further investigate this aspect. The greater presence of tooth wear in the Scab'e Arriu's sample is hypothetically due to a diet based on more abrasive and fibrous foods than present dishes, which are usually softer compared to the past. Finally, enamel hypoplasia is a condition frequently found in ancient populations, as

they were more exposed to nutritional and infectious stress; contemporary cases of that condition are unusual, especially in wealthy countries.

Dental treatments in patients with special-needs: an observational retrospective study

Poropat A., Ottaviani G., Bogdan Preda M.T., Rupel K., Gobbo M., Poropat A., Di Lenarda R., Biasotto M.

Department of Medical, Surgical and Health Sciences, University of Trieste, Strada di Fiume 447, 34129 Trieste, Italy

Aim: Patients with special needs (SNP) are more predisposed to develop pathologies of the oral cavity, both for the poor or absent collaboration to the dental treatments, and for interactions between their systemic disease, drugs administered and oral health. The aim of this study was to correlate the anamnestic characteristics with the dental treatments of SNP treated in operating room (OR). Furthermore, we assessed the adherence to scheduled follow-up recalls at 8 months from the intervention.

Methods: We analyzed SNP treated in OR between January 2014 and April 2019, at the "Santa Maria degli Angeli" Hospital in Pordenone. Patients were divided into four anamnestic groups according to the International Classification of Diseases (ICD-11): patients not affected by any disease; patients with mental, behavioral and neurological disorders; patients with diseases of the nervous system; patients with developmental anomalies. Moreover, they were subdivided in five groups according to the age: less than 6 years, 6-12 years, 12-25 years, 25-45 years and more than 45 years). Dental treatments were split in preventive, restorative, endodontic and surgical, both on permanent and deciduous teeth.

Results: A total of 118 patients were included in the study, with an average of 2.7 SNP treated per session. Almost all patients underwent dental surgery in AG (92%), while the remaining 8% was treated with deep sedation and local anesthesia. The group of SNP affected by mental, behavioral and neurological disorders was the most numerous (43%). SNP were treated for an average of 7.5 dental procedures at a time, without statistically significant differences among the four groups of ICD-11 pathologies. On the other hand, there was a significant difference on the type of dental treatment among groups for all age ranges ($p < 0.001$). A total of 7 patients (8%) needed to perform an additional dental procedure over the 6-year period considered in the study, with an average interval from the first one of 22.4 ± 13.9 months. Only 23 patients (19.5%), mostly affected by diseases of the nervous system, came to follow-up appointment scheduled at 8 months after surgery.