Nowadays, according to Literature data, Low Level Laser Therapy (LLLT) is considered efficacy tool for OM treatment. The BACKGROUND: of this paper is to evaluate the state-of-the-art knowledge for LLLT

METHODS: LLLT is a non-invasive and atraumatic device, which emits a low level laser beam with a wavelength between 630-900 nm, that guarantees three main effects: analgesic effect, anti-inflammatory effect and wound healing property. LLLT mechanism of action is due to biomodulation effect that include: ATP production in mitochondria, increased collagen production, fibroblast cells proliferation, detoxification of free radicals and neo-angiogenesis.

An evaluation of the Literature data about this topic was made. RESULTS: All the studies available in Literature data demonstrate the efficacy of LLLT in management of OM.

The major limit in the use of LLLT for OM is that there isn't any protocol standardization about technical parameters (power, dose, wavelength, time of treatment).

Various authors recommend using a power between 5-200mW and a fluence of 2J/cm2 for prophylactic and 4J/cm2 for therapeutic effects. It is suggested a LLLT application once daily until resolution.

In fact, if LLLT is used as a preventive misure, it can reduce the onset of the lesions, while it is applied as a therapeutic device, it can decrease the severity and duration of OM.

In particular the prophylactic use of LLLT avoids the risk of development of OM grade >2.

Due to his analgesic effect, LLLT allows an improvement of dysphagia and a reduction of pain, need for opioid analgesia and unplanned radiotherapy interruptions.

CONCLUSIONS: LLLT can improve the quality of life in these vulnerable patients to limit distress from mucositis.

The very encouraging results of LLLT in the prevention and treatment of OM in oncological patients could soon be proposed as a new standard of care, being part of a multidisciplinary approach. It is desirable that new studies can lead to a standardized protocol.

Biomarkers in oral pathology

C. Ciolfi, F. Rocchetti, R. Lo Giudice, G. Palaia, U. Romeo

Oral and Maxillo-facial surgery Department, "Sapienza" University of Rome, Rome, Italy

BACKGROUND: Human saliva is a multi-component oral fluid, which has high-potential for the early diagnoses of oral diseases and malignant transformation of lesions. Saliva contains 99% water as well as minerals, nucleic acids, electrolytes, mucus and proteins. It is also a non invasive and stress-free alternative to plasma and serum, and it is widely accepted as a potential method for clinical diagnostics. Saliva has the advantage to be simple to collect, easy and less expensive to analyze, compared to other fluids.

Then, most oral squamous cell carcinomas (OSCC) develop in a precancerous field of epitherlial cells characterized by tumor-associated genetic alteration. These fields could note be visible during clinical examination, so it is important to find an alternative method to identify precociously the risk areas. Of this paper is to consider a non-invasive screening approach to asses the value of molecular markers to identify patients at risk for oral cancer, using verified studies from the literature.

METHODS: Relevant articles were identified using MEDLINE and PUBMED. Key words identified were: molecular markers, salivary markers, oral dysplasia and biomarkers.

Data on the same marker were grouped. Informative markers for malignant malformation were distinguished from those for oral disease presence.

The studies identified different methods of saliva collection: oral brushing and oral rinse, used in different studies and, in few of them, used in comparison to each other; also different labpratory analysis were utilized for different markers. in fact, nPCR was adopted to analyze the loss of heterozygosis (LOH) in extracted DNA, while immunohistochemistry was used p53 and TP53 sequencing.

RESULTS: Evidence is well defined by retrospective studies. In oral dysplasia, LOH increases the risk of progression to cancer, as does survivin, TP53, matrix metalloproteinase (MMP9) and DNA content. On the contrary, other markers identified, such as p53, MMP1, mRna and cathepsin 1, do not predict malignant transformation.

113 marker were identified in literature. The most identified markers during a literature investigation are p53, Ki67, PCNA, LOH and Cyclins.

CONCLUSIONS: Still many methodological limitations should be overtaken, but oral biomarkers are one of the most interesting and actual issue in both oral and general medicine. Research into this field should concentrate on longitudinal design, in order to collect more data from different centers. Data and methods of collection should be standardized, in pursuance of data comparison and of discovery a non-invasive reliable method to predict malignant transformation of oral lesions.

Salivary and oral alterations among eating disorders patients.

E. Coccia, S. di Buò, A. Vignini, L. Mazzanti, M. Procaccini, A. Santarelli, G. Rappelli

Department of Clinical Specialistic and Dental Sciences, Polytechnic University of Marche, Ancona, Italy.

BACKGROUND: Eating disorders (ED) are psychosomatic disorders that may influence oral health because dental hard tissue, as well as salivary conditions, may be affected. They are characterized by a specific psychopathology focused on eating behavior, body weight, and shape, and the individual's efforts at controlling them. In the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV), the EDs are divided into three main diagnoses: anorexia nervosa (AN), bulimia nervosa (BN), and ED not otherwise specified (EDNOS).

The aim of this study was to examine and evaluate the prevalence of specific oral manifestations in patients affected by ED, the biochemical composition of saliva in patients with ED, the relationship between ED and oral hygiene, and the patient's perception on the quality of life in relation to oral health.

METHODS: The research was carried out at two centers for ED management present in central Italy regions. Oral examination and saliva samples collection were performed for each patient. Two questionnaires was filled by each patient. The first was carried out in order to evaluate the oral hygiene of individual patients, the methods and the importance of cleaning the teeth, the smoking and the presence of oral disorders such as bleeding gums, dentin hypersensitivity and the feeling of dry mouth. The second questionnaire was the "Oral Health Impact Profile-14".

RESULTS: 21 hospitalized patients were enrolled in the