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Toll-like receptor and metalloproteinase genes polymorphisms in Jordanian RAS patientsJ Karasneh^{*1}, ME Bani Hani², A Hassan³, M Thornhill⁴¹Department of Oral Medicine and Surgery, Faculty of Dentistry, Jordan University of Science and Technology (JUST), Irbid, Jordan, ²Department of Biological Sciences and Genetic Engineering, JUST, Irbid, Jordan, ³Department of Oral Medicine & Oral Diagnosis, College of Dentistry, Al Mustansiriyah University, Baghdad, Iraq, ⁴Unit of Oral and Maxillofacial Medicine and Surgery, The University of Sheffield, School of Clinical Dentistry, Sheffield, UK

Objectives: Recurrent aphthous stomatitis (RAS) is a common oral ulcerative condition. Histopathological studies show active cell mediated immunity and local release of cytokines. Toll-like receptors (TLRs) are key proteins in innate immunity; they recognize a variety of molecules derived from bacteria, viruses, or host tissue products, upon recognition, TNF- α is produced. Matrix Metalloproteinases (MMPs) are proteins that participate in immune response and in degradation of extracellular matrix. MMPs are considered bio-markers for many autoimmune and inflammatory diseases; their role in the etiopathogenesis of RAS was suggested based on the beneficial therapeutic effect of Tetracycline (inhibitors of mammalian MMPs). The aim of this study was to investigate if having a particular allele or genotype of polymorphisms in TLR and MMP genes will increase the risk of acquiring RAS.

Methods: This case-control study included 100 RAS cases and 153 age, gender and ethnically matched controls. Seven single nucleotide polymorphisms (SNPs) in the TLR2, TLR4, MMP2 and MMP9 genes were genotyped using PCR-RFLP techniques. One SNP in TLR4 rs4986790 (D299G), two in TLR2 rs5743708 (Arg753Gln) and rs3804100, three in the MMP9 rs3918242 (-1562C/T), rs11697325 (-8202 A/G) and rs17576 (R279Q) and one in MMP2 rs2285053 (-735C/T). Chi-squared analysis was used to compare the alleles and genotypes frequencies.

Results: No significant difference was observed between cases and controls in genotype and allele frequencies in any of TLR genes and in MMP9 rs17576 polymorphism. A significant association was observed in MMP2 rs2285053 ($P = 0.015$) and MMP9 rs3918242 ($P = 0.017$) and rs11697325 ($P = 0.013$).

Conclusion: MMP2 and MMP9 genes are associated with RAS. The role of TLR can't be ruled out as lack of association could be due to low frequency of minor allele observed in the investigated SNPs in Jordanian population.

Relevance: This study is a step toward understanding the pathogenesis of RAS.

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Low intensity laser therapy in burning mouth syndrome: clinical trial VD Pellegrini¹, B Freo^{*1}, EF Patricio¹, RA Prates², IT Kato², CA Lemos-Junior¹, NN Sugaya¹¹Department of Stomatology, University of Sao Paulo, Sao Paulo, Brazil, ²Institute of Nuclear Research, IPEN, Sao Paulo, Brazil

Objective: The aim of this study was to evaluate the effectiveness of low intensity laser therapy in the treatment of SAB patients through a randomized controlled clinical trial.

Methods: Twenty-five SAB patients composed the study group. Two patients' groups were constituted: a Laser group (13) and a Placebo group (12). Allocation was performed with the aid of a randomization computer program. Every patient received four irradiations, two per week, of low intensity laser or false irradiation according to the group allocation. The laser device utilized was a low intensity laser (Quantum, EccoFibras, Campinas, Brazil) GaAlAs, emitting 790 nm with 120 mW of power. Irradiations were performed in scanning mode over the mucosa affected by the burning sensation, delivering a dose of 6 J cm⁻². Patients were kept blind to the radiation received (laser or placebo). One researcher delivered the irradiations and other collected the results (VAS), one was blinded to the results and the other blinded to type of irradiation delivered. Data were analyzed only at the end of the experimental period. Patients were evaluated at baseline in each of the irradiation points and at 7, 14, 30, 60 and 90 days after the last irradiation.

Results: Patients were categorized according to the percentage of symptom variation at the last checkpoint: no burning – 0% of symptoms, optimal – 1–25%, good – 26–50%, regular – 51–75%, unchanged – 76–100%, and worsening – values exceeding 100%. Initial VAS value was assumed as 100% of symptom sensation. Statistical analysis showed a better response in the laser group ($P = 0.03$, Fisher's exact test).

Conclusion: Low intensity laser therapy should be included as a tool to treat SAB patients.

Relevance: LLLT produced benefits to SAB patients causing no undesirable side effects and present high adherence of patients to the therapy.

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Severity of temporomandibular disorders related to gender, clinical features and imagingCEP Luca^{*1}, JES Costa¹, ML Carli², TB Nunes¹, RC Di Matteo¹, FRX Silveira¹, MC Bolzan³, AL Witzel¹¹Department of Stomatology, Faculty of Dentistry, University of São Paulo, São Paulo, SP, Brazil, ²Department of Clinic and Surgery, Area of Oral Pathology, Faculty of Dentistry, Federal University of Alfenas, Alfenas, MG, Brazil, ³Foundation for Scientific

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Objectives: The objective of this study was to evaluate the clinical features and imaging of TMD in relation to gender.

Methods: The clinical variables observed in 87 patients were: age, chief complaint, pain on palpation and the presence of parafunctional habits. The position of the articular disc (AD) observed by magnetic resonance imaging (MRI) was divided into: positioned disc (PD), unilateral displaced disc (UDD), bilateral displaced disc no reduction (BDDNR), bilateral displaced disc with unilateral reduction (BDDUR) and bilaterally displaced disc with bilateral reduction (BDDBR).

Results: The association between the clinical and imaging variables was verified by analysis of variance (ANOVA) and Bonferroni test, and the chi-square or Fisher exact test for the other variables ($P < 0.05$). The results showed that 80.5% (70/87) belong to the female gender and 19.5% (17/87) belong to the male. Statistically the average age of women was lower than the average age of men ($P = 0.0027$). The groups BDDNR, BDDRU, and BDDBR were formed proportionally more women than PD and UDD groups ($P = 0.001$). Pain on palpation was greater for women for both muscles and for the joint ($P = 0.001$). Parafunctional habit was present equally in both genders.

Conclusion: The severity of TMD presented higher among women of all groups.

Relevance: The high prevalence of females in groups of patients with TMD is emphasized in several studies. This study showed that TMD is more prevalent in women, in agreement with the literature. The results also showed that the severity (intra-articular disorders, muscle and joint pain on palpation) is higher in women than in men.

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Leprosy reactional episodes: oral coinfections as a possible risk factorACF Motta^{*1}, KJ Pereira², DC Tarquínio², MB Vieira², K Miyake², NT Foss²¹Department of Morphology, Stomatology and Physiology, Ribeirão Preto Dental School, São Paulo University, Ribeirão Preto, Brazil, ²Department of Internal Medicine, Ribeirão Preto Medical School, São Paulo University, Ribeirão Preto, Brazil

Objectives: This study aimed to determine the frequency of coinfection in leprosy patients and whether there was a relationship between the presence of coinfections and the leprosy reactional episodes development.

Methods: A cross-sectional study based on analysis of the medical records of the patients assisted at the Leprosy Clinics of the Ribeirão Preto Medical School, São Paulo University, was conducted during the period 2000–2010. Information was recorded regarding age, sex, clinical form, WHO classification, treatment, the presence of reactions and coinfections. Focal and systemic infections were diagnosed based on history, physical examination, and laboratory tests. Multinomial logistic regression was used to evaluate the association between leprosy reactions, gender, sex, age, WHO classification and coinfections.

Results: A total of 225 patients were studied. Most of them were males (155/225 = 68.8%), aged on average 49.31 \pm 15.92 years, and the most prevalent clinical form was the multibacillary (MB) form ($n = 146$), followed by the paucibacillary (PB) form ($n = 79$). Regarding reactions, erythema nodosum leprosum (ENL) was more prevalent (78/122 = 63.9%) than reversal reactions (RR) (44/122 = 36.1%), especially in those MB patients (OR 5.07; CI 2.86–8.99; $P < 0.0001$) presenting any coinfections (OR 2.26; CI 1.56–3.27; $P < 0.0001$). Eighty-eight (88/225 = 39.1%) patients presented coinfections. Oral coinfection was the most prevalent (40/88 = 45.5%), followed by urinary tract infection (17/88 = 19.3%), sinusopathy (6/88 = 6.8%), hepatitis C (6/88 = 6.8%), and hepatitis B (6/88 = 6.8%).

Conclusions: Coinfections, especially oral infections, may be involved in the development and maintenance of leprosy reactions.

Relevance: Leprosy reactions are dangerous and may cause the leprosy treatment to be discontinued, leading to disabilities. Thus, the identification of coexistent processes that can boost the inflammatory state of leprosy could be essential to prevent these reactions. These results will help assistance of leprosy patients as a tool for public health professionals, especially physicians, in following up and treating leprosy.

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Comparison of Nd: YAG laser and conventional labial frenectomyLA Gueiros^{*1}, R Medeiros-Junior, IH Silva, JC Xavier, AT Carvalho, JC Leão
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Objectives: The aim of the present study was to compare clinical parameters related to labial frenectomies performed by conventional surgery technique with a Nd:YAG laser.

Methods: Forty patients (aged 8–51 years of age, 16 males and 24 females) with clinical indication of labial frenectomy were divided into two groups: G1 – conventional surgery ($n = 22$) and G2 – Nd:YAG laser surgery ($n = 18$). Frenulum insertion, bleeding, surgical time, suturing, preoperative fear and postoperative discomfort were evaluated.

Results: Papillary or transpapillar insertion was observed in 36 patients (90%). Nd:YAG laser intervention did not require suture and were associated with reduced trans-operative bleeding ($P < 0.001$), resulting in a shortened surgical time