

## Βιβλιογραφία - References

- Anusaksathien O, Sukboon A, Sitthiphong P & Teanpaisan R. (2003) Distribution of interleukin-1beta(+3954) and IL-1alpha (- 889) genetic variations in a Thai population group. *J Periodontol*: **74**: 1796–1802.
- Armitage GC, Wu Y, Wang HY, Sorrell J, di Giovine FS, Duff GW. Low prevalence of a periodontitis-associated interleukin-1 composite genotype in individuals of Chinese heritage. *J Periodontol* 2000: **71**: 164–171
- Berezow AB & Darveau RP. (2011) Microbial shift and periodontitis. *Periodontology* 2000;55:36-47. Chapple IL, Landini G, Griffiths GS, Patel NC & Ward RS. (1999) Calibration of the periotron 8000 and 6000 by polynomial regression. *J Periodontal Res.* 34(2):79-86.
- Bodet, C., F. Chandad & D. Grenier. (2006) Inflammatory responses of a macrophage/epithelial cell co-culture model to mono and mixed infections with *Porphyromonas gingivalis*, *Treponema denticola*, and *Tannerella forsythia*. *Microbes Infect.*; **8**:27–35
- Chapple IL, Landini G, Griffiths GS, Patel NC & Ward RS (1999) Calibration of the periotron 8000 and 6000 by polynomial regression. *J Periodontal Res.* **34**(2):79-86.
- Chen H, Wilkins LM, Aziz N, Cannings C, Wyllie DH, Bingle C, Rogus J, Beck JD, Offenbacher S, Cork MJ et al. (2006) Single nucleotide polymorphisms in the human interleukin-1b gene affect transcription according to haplotype context. *Hum Mol Genet.* **15**(4):519-529.
- Cutler CW, Stanford TW, Abraham C, Cederberg RA, Boardman TJ & Ross C. (2000) Clinical benefits of oral irrigation for periodontitis are related to reduction of pro-inflammatory cytokine levels and plaque. *J Clin Periodontol.* **27**(2):134-143.
- Darveau RP, Tanner A & Page RC. (1997) The microbial challenge in periodontitis. *Periodontol* 2000. Jun; **14**:12-32.
- Deng JS, Qin P, Li XX & Du YH. (2013) Association between interleukin-1beta c (3953/4)t polymorphism and chronic periodontitis: Evidence from a meta-analysis. *Hum Immunol.* **74**(3):371-378.
- Diehl SR, Wang Y, Brooks CN, Burmeister JA, Califano JV, Wang S & Schenkein HA. (1999) Linkage disequilibrium of interleukin-1 genetic polymorphisms with early-onset periodontitis. *J Periodontol*: **70**: 418-430.
- di Giovine, F. S., E. Takhsh, A. I. Blakemore & G. W. Duff. (1992) Single base polymorphism at -511 in the human interleukin-1 beta gene (IL1 beta). *Hum Mol Genet.*; **1**:450.
- Engelbreton SP, Lamster IB, Herrera-Abreu M, et al. (1999) The influence of interleukin-1b and TNF-a in periodontal tissue and GCF. *J Periodontol.*; **70**:567-573.
- Feghali K, Tanabe S & Grenier D. (2011) Soluble cd14 induces cytokine release by human oral epithelial cells. *J Periodontal Res.* **46**(1):147-152.
- Ferreira SB, Jr., Trombone AP, Repeke CE, Cardoso CR, Martins W, Jr., Santos CF, Trevilatto PC, Avila-Campos MJ, Campanelli AP, Silva JS et al. (2008) An interleukin-1beta (il-1beta) single-nucleotide polymorphism at position 3954 and red complex periodontopathogens independently and additively modulate the levels of il-1beta in diseased periodontal tissues. *Infect Immun.* **76**(8):3725-3734.
- Galbraith GM, Hagan C, Steed RB, Sanders JJ & Javed T. (1997) Cytokine production by oral and peripheral blood neutrophils in adult periodontitis. *J Periodontol.* **68**(9):832-838.
- Galbraith GM, Hendley TM, Sanders JJ, Palesch Y & Pandey JP. (1999). Polymorphic cytokine genotypes as markers of disease severity in adult periodontitis. *J Clin Periodontol.* **26**(11):705-709.
- Garlet GP. (2010) Destructive and protective roles of cytokines in periodontitis: A re-appraisal from host defense and tissue destruction viewpoints. *J Dent Res.* **89**(12):1349-1363.
- Gore EA, Sanders JJ, Pandey JP, Palesch Y & Galbraith GM. (1998) Interleukin-1beta+3953 allele 2: Association with disease status in adult periodontitis. *J Clin Periodontol.* **25**(10):781-785.
- Goutoudi P, Diza E & Arvanitidou M. (2004) Effect of periodontal therapy on crevicular fluid interleukin-1-beta and interleukin-10 levels in chronic periodontitis. *J Dent.* **32**(7):511-520.
- Graves DT & Cochran D. (2003) The contribution of interleukin-1 and tumor necrosis factor to periodontal tissue destruction. *J Periodontol.* **74**(3):391-401.
- Greenstein G & Hart TC. (2002) A critical assessment of interleukin-1 (il-1) genotyping when used in a genetic susceptibility test for severe chronic periodontitis. *J Periodontol.* **73**(2):231-247.
- Griffen AL, Becker MR, Lyons SR, Moeschberger ML & Leys EJ. (1998) Prevalence of *Porphyromonas gingivalis* and periodontal health status. *J Clin Microbiology*; **36**:3239–3242.
- Grigoriadou ME, Koutayas SO, Madianos PN & Strub JR. (2010) Interleukin-1 as a genetic marker for periodontitis: Review of the literature. *Quintessence Int.* **41**(6):517-525.
- Hart, TC, Marazita, ML & Wright, JT. (2000b) The impact of molecular genetics on oral health paradigms. *Critical Rev in Oral Biology and Medicine*; **11**:26–56.
- Hodge PJ, Riggio MP & Kinane DF. (2001) Failure to detect an association with IL1 genotypes in European Caucasians with generalised early onset periodontitis. *J Clin Periodontol.* May; **28**(5):430-6
- Hou LT, Liu CM & Rossomando EF. (1995) Crevicular interleukin-1 beta in moderate and severe periodontitis patients and the effect of phase i periodontal treatment. *J Clin Periodontol.* **22**(2):162-167.
- Karasneh JA, Ababneh KT, Taha AH, Al-Abbadi MS &

- Ollier WE. (2011) Investigation of the interleukin-1 gene cluster polymorphisms in Jordanian patients with chronic and aggressive periodontitis. *Arch Oral Biol.* Mar; **56**(3):269-76
- Karimbux NY, Saraiya VM, Elangovan S, Allareddy V, Kinnunen T, Kornman KS & Duff GW. (2012). Interleukin-1 gene polymorphisms and chronic periodontitis in adult whites: A systematic review and meta-analysis. *J Periodontol.* **83**(11):1407-1419.
- Kelk, P., Claesson R, Hanstrom L, Lerner U. H., Kalfas S, & Johansson A. (2005) Abundant secretion of bioactive interleukin-1B by human macrophages induced by *Actinobacillus actinomycescomitans* leukotoxin. *Infect Immun.*; **73**:453–458.
- Kinane DF & Attstrom R, European Workshop in Periodontology group B. (2005) Advances in the pathogenesis of periodontitis. Group b consensus report of the fifth european workshop in periodontology. *J Clin Periodontol.* **32** Suppl 6:130-131.
- Kinane DF & Hart TC. (2003) Genes and gene polymorphisms associated with periodontal disease. *Crit Rev Oral Biol Med.*; **14**(6):430-449
- Kinane DF, Preshaw PM & Loos BG, Working Group 2 of Seventh European Workshop on Periodontology. (2011) Host-response: Understanding the cellular and molecular mechanisms of host-microbial interactions--consensus of the seventh european workshop on periodontology. *J Clin Periodontol.*; **38** Suppl 11:44-48.
- Kornman KS. (2001) Patients are not equally susceptible to periodontitis: Does this change dental practice and the dental curriculum? *J Dent Educ.* **65**(8):777-784.
- Kornman KS, Crane A, Wang HY, di Giovine FS, Newman MG, Pirk FW, Wilson TG, Jr., Higginbottom FL & Duff GW. (1997) The interleukin-1 genotype as a severity factor in adult periodontal disease. *J Clin Periodontol.* **24**(1):72-77.
- Kowalski J, Gorska R, Dragan M & Kozak I. (2006) Clinical state of the patients with periodontitis, il-1 polymorphism and pathogens in periodontal pocket--is there a link? (an introductory report). *Adv Med Sci.* **51** Suppl 1:9-12.
- Laine ML, Moustakis V, Koumakis L, Potamias G & Loos BG. (2013) Modeling Susceptibility to Periodontitis. *J Dent Res.* Jan; **92**(1):45-50.
- Lee A, Ghaname CB, Braun TM, Sugai JV, Teles RP et al. (2012) Bacterial and salivary biomarkers predict the gingival inflammatory profile. *J Periodontol.*; **83**:79-89.
- Lindhe, J., Lang, N.P. & Karring, T. (2008) Clinical Periodontology and Implant Dentistry. 5th edition, Oxford, Wiley-Blackwell.
- Liu YC, Lerner UH & Teng YT. (2010) Cytokine responses against periodontal infection: Protective and destructive roles. *Periodontol 2000.* **52**(1):163-206.
- Madianos, P. N., Bobetsis, G. & Kinane, D. F. (2005) Generation of inflammatory stimuli: how bacteria set up inflammatory responses in the gingiva. *J Clin Periodontol.*; **32**, (Suppl. 6), 57–71.
- Mark LL, Haffajee AD, Socransky SS, Kent RL, Jr., Guerrero D, Kornman K, Newman M & Stashenko P. (2000). Effect of the interleukin-1 genotype on monocyte il-1-beta expression in subjects with adult periodontitis. *J Periodontal Res.* **35**(3):172-177.
- Marsh PD. (1994) Microbial ecology of dental plaque and its significance in health and disease. *Adv Dent Res.*: **8**: 263-271.
- Masamatti SS, Kumar A, Kumar A T. Baron, Mehta DS & Bhat K. (2012) Evaluation of interleukin-1B (+3954) gene polymorphism in patients with chronic and aggressive periodontitis: A genetic association study. *Contemp Clin Dent.* Apr-Jun; **3**(2):144–149
- Moimaz SA, Zina LG, Saliba O & Garbin CA. (2009) Smoking and periodontal disease: Clinical evidence for an association. *Oral Health Prev Dent.* **7**(4):369-376.
- Nibali L, Donos N, Brett PM, Parkar M, Ellinas T, Llorente M & Griffiths GS. (2008) A familial analysis of aggressive periodontitis - clinical and genetic findings. *J Periodontal Res.* **43**(6):627-634.
- Nibali L, Ready D.R, Parkar M, Brett P.M, Wilson M, Tonetti M.S & Griffiths G.S. (2007) Gene Polymorphisms and the Prevalence of Key Periodontal Pathogens. *J Dent Res.*; **86**:416-420.
- Nicklin MJ, Barton JL, Nguyen M, FitzGerald MG, Duff GW & Kornman K. (2002). A sequence-based map of the nine genes of the human interleukin-1 cluster. *Genomics.* **79**(5):718-725.
- Nikolopoulos GK, Dimou NL, Hamodrakas SJ & Bagos PG. (2008) Cytokine gene polymorphisms in periodontal disease: A meta-analysis of 53 studies including 4178 cases and 4590 controls. *J Clin Periodontol.* **35**(9):754-767.
- Offenbacher S, Barros S, Mendoza L, Mauriello S, Preisser J, Moss K, de Jager M & Aspiras M. (2010) Changes in gingival crevicular fluid inflammatory mediator levels during the induction and resolution of experimental gingivitis in humans. *J Clin Periodontol.* **37**(4):324-333,185.
- Parkhill JM, Hennig BJ, Chapple IL, Heasman PA & Taylor JJ. (2000) Association of interleukin-1 gene polymorphisms with early-onset periodontitis. *J Clin Periodontol.* **27**: 682-689
- Papapanou PN, Neiderud AM, Sandros J & Dahle'n G. (2001) Interleukin-1 gene polymorphism and periodontal status. A case-control study. *J Clin Periodontol.* **28**:389-396.
- Papathanasiou E, Palaska I & Theoharides TC. (2013) Stress hormones regulate periodontal inflammation. *J Biol Regul Homeost Agents.* **27**(3):621-626.
- Papathanasiou E, Teles F, Griffin T, Arguello E, Finkel-

- man M, Hanley J & Theoharides TC. (2014). Gingival crevicular fluid levels of interferon-gamma, but not interleukin-4 or -33 or thymic stromal lymphopoietin, are increased in inflamed sites in patients with periodontal disease. *J Periodontol Res.* **49**(1):55-61.
- Pociot F, Molvig J, Wogensen L, Worsaae H & Nerup J. (1992) A taqi polymorphism in the human interleukin-1 beta (il-1 beta) gene correlates with il-1 beta secretion in vitro. *Eur J Clin Invest.* **22**(6):396-402.
- Preshaw PM & Taylor JJ. (2011) How has research into cytokine interactions and their role in driving immune responses impacted our understanding of periodontitis? *J Clin Periodontol.* **38** Suppl 11:60-84.
- Qureshi ST, Skamene E & Malo D. (1999) Comparative genomics and host resistance against infectious diseases. *Emerg Infect Dis.*; **5**:36-47.
- Rodenburg JP, van Winkelhoff AJ, Winkel EG, Goene RJ, Abbas F & de Graff J. (1990) Occurrence of bacteroides gingivalis, bacteroides intermedius and actinobacillus actinomycetemcomitans in severe periodontitis in relation to age and treatment history. *J Clin Periodontol.* **17**(6):392-399.
- Sakellari D, Koukoudetsos S, Arsenakis M & Konstantinidis A. (2003) Prevalence of IL-1A and IL-1B polymorphisms in a Greek population. *J Clin Periodontol.* **30**: 35-41.
- Smith, A. J., L. J. Keen, M. J. Billingham, M. J. Perry, C. J. Elson, J. R. Kirwan, J. E. Sims, M. Doherty, T. D. Spector & J. L. Bidwell. (2004) Extended haplotypes and linkage disequilibrium in the IL1R1-IL1A-IL1B-IL1RN gene cluster: association with knee osteoarthritis. *Genes Immun.*; **5**:451-460.
- Socransky SS & Haffajee AD. (1992) The bacterial etiology of destructive periodontal disease: Current concepts. *J Periodontol.* **63**(4 Suppl):322-331.
- Socransky SS, Haffajee AD, Cugini MA, Smith C & Kent RL, Jr. (1998) Microbial complexes in subgingival plaque. *J Clin Periodontol.* **25**(2):134-144.
- Socransky SS, Haffajee AD, Smith C & Duff GW. (2000) Microbiological parameters associated with il-1 gene polymorphisms in periodontitis patients. *J Clin Periodontol.* **27**(11):810-818.
- Stashenko P, Fujiyoshi P, Obernesser MS, Probst L, Haffajee AD & Socransky SS. (1991). Levels of interleukin 1 beta in tissue from sites of active periodontal disease. *J Clin Periodontol.* **18**(7):548-554.
- Tabor HK, Risch NJ & Myers RM. (2002) Candidate-gene approaches for studying complex genetic traits: Practical considerations. *Nat Rev Genet.*; **3**:391-397.
- Teles R, Sakellari D, Teles F, Konstantinidis A, Kent R, Socransky S & Haffajee A. (2010) Relationships among gingival crevicular fluid biomarkers, clinical parameters of periodontal disease, and the subgingival microbiota. *J Periodontol.* **81**(1):89-98.
- Thunell DH, Tymkiw KD, Johnson GK, Joly S et al. (2010) A multiplex immunoassay demonstrates reductions in gingival crevicular fluid cytokines following initial periodontal therapy. *J Periodontol Res.*; **45**:148-152.
- Trevilatto PC, de Souza Pardo AP, Scarel-Caminaga RM, de Brito RB Jr, Alvim-Pereira F, Alvim-Pereira CC, Probst CM, Garlet GP, Sallum AW, Line SR. (2011) Association of IL1 gene polymorphisms with chronic periodontitis in Brazilians. *Arch Oral Biol.* Jan; **56**(1):54-62.
- Trombelli L, Scapoli C, Carrieri A, Giovannini G, Calura G & Farina R. (2010). Interleukin-1 beta levels in gingival crevicular fluid and serum under naturally occurring and experimentally induced gingivitis. *J Clin Periodontol.* **37**(8):697-704.
- van Winkelhoff AJ, Loos BG, van der Reijden WA & van der Velden U. (2002) Porphyromonas gingivalis, Bacteroides forsythus and other putative periodontal pathogens in subjects with and without periodontal destruction. *J Clin Periodontol.*; **29**:1023-1028.
- Weidlich P, Cimoës R, Pannuti CM & Oppermann RV. (2008) Association between periodontal diseases and systemic diseases. *Braz Oral Res.* **22** Suppl 1:32-43.
- Yoshie H, Kobayashi T, Tai H & Galicia JC. (2007) The role of genetic polymorphisms in periodontitis. *Periodontology 2000*, Vol. **43**, 102-132.
- Yucel OO, Berker E, Mescil L, Eratalay K, Tepe E & Tezcan I. (2013) Association of interleukin-1 beta (+3954) gene polymorphism and gingival crevicular fluid levels in patients with aggressive and chronic periodontitis. *Genet Couns.* **24**(1):21-35.
- Zhang J, Sun X, Xiao L, Xie C, Xuan D & Luo G. (2011) Gene polymorphisms and periodontitis. *Periodontology 2000*, Vol. **56**, 102-124.

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