5th International Conference on Advances in Skin, Wound Care and Tissue Science
October 15-16, 2018 Rome, Italy

Angiotensin-converting enzyme insertion/deletion (rs106180) and Angiotensin type 1 receptor $A_{1166}C$ (rs106165) genotypes and psoriasis: correlation with cellular immunity, lipid profile and oxidative stress markers

Asad Vaisi-Raygani[1*], Maryam Tanhapour [1] , Soheila Gharb [1]
Affiliation: 1Fertility and Infertility Research Center, School of Medicine, Kermanshah University of Medical Sciences, Daneshgah Avenue, PO Box 6714869914 Kermanshah, Iran.

Abstract (300 word limit)

Psoriasis is a chronic inflammatory skin and angiotensin converting enzyme(ACE) is a key circulating enzyme converting angiotensin I to the vasoactive peptide angiotensin-II. The exact role of angiotensin-converting enzyme (ACE) I/D-polymorphism(rs106180) in psoriasis is not clear. We aimed to examine whether the ACE I/D and AT1RA_{1166}C-polymorphisms(rs106165), lipid profile and stress oxidative are associated with susceptibility to psoriasis. One-hundred psoriasis-patients and 100-gender and age-matched unrelated healthy controls were recruited for this case-control study. ACE I/D and AT1R-A_{1166}C polymorphisms were identified by PCR and PCR-RFLP, respectively, malondialdehyde (MDA) was detected by HPLC, serum arylesterase (ARE) activity of paraoxonase (PON) and catalase-activities were detected by spectrophotometry, superoxide dismutase (SOD)activity and VAP-1 were measured by ELISA. Presence of C-allele of AT1R-A_{1166}C and I-allele of ACE considerably increased the risk of psoriasis by 6.42-fold ($p<0.001$). The distribution of II-genotype of ACE was significantly higher in psoriasis patients than in control group and increased the risk of disease by 3.11-times ($p=0.023$). The higher levels of MDA in patients and the higher activity of SOD, ARE and CAT were observed in healthy controls with I/D+I/I-genotype of ACE-I/D. This study for the first time demonstrated that ACE I/D and AT1R A_{1166}C genes polymorphisms robustly increases the risk of developing psoriasis in population from west of Iran. In addition, these individuals had significantly higher VAP-1 and MDA concentration and lower enzymatic and non-enzymatic antioxidant-status, suggesting that psoriatic patients carrying C allele of AT1R_{1166} polymorphism may be more susceptible to cardiovascular disease and myocardial infarction compared with A allele.

Recent Publications (minimum 5)

1. Asefi M, Vaisi-Raygani A, Bahrehmand F, Kiani A, Rahimi Z, Nomani H, Ebrahimi A, Tavilani H, Pourmotabbed T. 2012. Paraoxonase 1 (PON1) 55 polymorphism, lipid profiles and psoriasis. Br J Dermatol 167:1279-86.
2. Asefi M, Vaisi-Raygani A, Khodarahmi R, Nemati H, Rahimi Z, Vaisi-Raygani H, et al. 2014. Methylentetrahydrofolatereductase (rs1801133) polymorphism and psoriasis: contribution to oxidative stress, lipid peroxidation and correlation with vascular adhesion protein 1, preliminary report. J Eur Acad Dermatol Venereol 28:1192-8.
3. Mohammadi Y, Vaisi-Raygani A, Shakiba E, Bahrehmand F, Khodarahmi R, Nemati H, et al. 2016. Angiotensin II type 1 receptor A1166 C (rs5186) gene polymorphism increased risk and severity of psoriasis, contribution to oxidative stress, antioxidant statues, lipid peroxidation and correlation with vascular adhesion protein 1, preliminary report. J Eur Acad Dermatol Venereol 30:1395.
4. Nemati H, Khodarahmi R, Sadeghi M, Ebrahimi A, Rezaei M, Vaisi-Raygani A.2014 Antioxidant status in patients with psoriasis Cell Biochem Funct 32:268-27.
5. Weger W, Hofer A, Wolf P, El-Shabrawi Y, Renner W, Kerl H, et al. 2007. The angiotensin-converting enzyme insertion/deletion and the endothelin-134 3A/4A gene polymorphisms in patients with chronic plaque psoriasis. Exp Dermatol 16:993-8.



kermanshah University of Medical Sciences
Faculty of Medicine

Biography (150 word limit)

"Dr. Asad Vaisi-Raygani is currently working as academic staff (full professor) at the University of Kermanshah Medical Sciences, Kermanshah, Iran;. Dr Asad Vaisi-Raygani received his PhD on clinical biochemistry from the University of Tehran Medical sciences , Tehran,Iran Dr Asad Vaisi-Raygani completed his Masters of Clinical Biochemistry from the University of Isfahan Medical sciences. He then worked at the Institute clinical biochemistrt department, served as Associate Professor and Professor at the University in of Kermanshah Medical Sciences. Dr. Scientist has authored several

publications in various journals (more than 100 papers) and books. His publications reflect his research interests in molecular biology and genetics also several aspect of clinical biochemistry.

Research Interest: Molecular biology and genetics and several aspect of clinical biochemistry.

Keywords: ACE I/D genotypes, AGTR1 $A_{1166}C$ variants, MDA, psoriasis, VAP-1, Lipid and lipoprotein profiles, Aryl esterase activity of paraoxonase (ARE), Catalase

Desired presentation: x_ Poster

Topic Molecular genetic skin auto immune diseae

Corresponding Author Details: Asad Vaisi-Raygani, PhD, Professor of Clinical Biochemistry, School of Medicine, Kermanshah University of Medical Sciences, Daneshgah Ave, *P.O. Box 6714869914*,Kermanshah, IRAN.
email: avaisirayganii@gmail.com; asadvaisiraygani@kums.ac.ir
http://orcid.org/0000-0002-3042-2832
Scopus Author ID: 14623384500
E-mail: asadvaisiraygani@kums.ac.ir, avaisiraygani@gmail.com