Open Access
www.openaccessjournals.com

JBR Journal of Interdisciplinary Medicine and Dental Sciences

Association of vascular endothelial growth factor (VEGF-2578) genetic polymorphisms with bisphosphonate-related osteonecrosis of the jaws

Maha A Al-Mohaya

Prince Sultan Military Medical City, Saudi Arabia

Abstarct

Bisphosphonate (BPN) related osteonecrosis of the jaws (BRONJ) has been reported exclusively in jaw bones especially in the cancer patients treated with IV bisphosphonate. Genetic differences may produce the unique response to BPN in susceptible individual. Emerging evidence has shown that vascular endothelial growth factor (VEGF) gene polymorphisms play a vital role in the angiogenesis and osteonecrosis of jaw (ONJ). The present study aimed to investigate the association between VEGF-2578 gene polymorphism and ONJ in breast and prostate cancer patients with the history of IV BPN administration. Material and Method: Hundred Saudi patients with breast and prostate cancer were examined in the Oral Medicine clinic. ONJ was confirmed in 13 out of 40 who had received zometa (IV BPN). Equal number of age, sex and ethnicity matched healthy subjects were recruited. Polymerase chain reaction with restriction fragment length polymorphism (PCR-RFLP) method was used to detect VEGF-2578 gene polymorphism. Preliminary results: In the present study, homozygous mutant (CC) genotype of VEGF-2578 gene is significantly higher (OR = 2.7, 95% CI = 0.928-5.96, p= 0.046) in the cancers patients as compared to healthy subject. When genotypic data were compared between ONJ and non ONJ patients in zometa treated group, we found CC genotype increases more risk (OR = 1.86, 95% CI= 0.283-12.32, p = 0.42) of ONJ because of zometa but failed to reach significant levels. However, heterozygous (CA) genotype was (17/27, 62.96%) higher in non ONJ patients as compared to ONJ patients (4/13, 30.77%). Conclusion: Homozygous mutant genotype may be one of the associative risk factors for ONJ in the zometa treated patients. Currently, we are working to increase the sample size and recruit more patients with confirmed ONJ diagnosis. Moreover, other VEGF gene polymorphisms will be investigated which might be helpful in understanding the unknown etiology of ONJ in Saudi population.

Biography

Maha Al-Mohaya has obtained her American Board of Oral Medicine in 2005 (As the First Saudi Doctor). Later in 2006 she completed her Doctorate of Medical Science in Oral Biology from Harvard University/USA. Recently she got her fellowship of Laser Therapy in Dentistry from Aachen University/Germany. Currently, she works as Medical Admin Assistant for Physician Affairs and Chairman of Oral Medicine and Special Care Dentistry at Prince Sultan Military Medical City/ Saudi Arabia She has published more than 10 papers in reputed journals and has been serving as a Chief editor Deputy of Saudi Medical Journal.

4th International Conference on Dentistry and Oral Health | July 20-21, 2020

Citation: Maha Al-Mohaya, Association of vascular endothelial growth factor (VEGF-2578) genetic polymorphisms with bisphosphonate-related osteonecrosis of the jaws Dental Congress 2021, 4th International Conference on Dentistry and Oral Health, May 6-7, 2021, Dubai, UAE, 01