2021 International Conference on Human Genetics and Genomics
1-2 December Yazd University

Study of BDNF gene expression in Alzheiemer´s patients.

Donya pourhossien ,Dr. soheila Talesh Sasani , Dr.farzam agamiyan
1. MSc student University of Guilan
2. Assistant Professor University of Guilan
3. Assistant Professor University of Guilan
Email:donya.pourhossien@gmail.com

Background

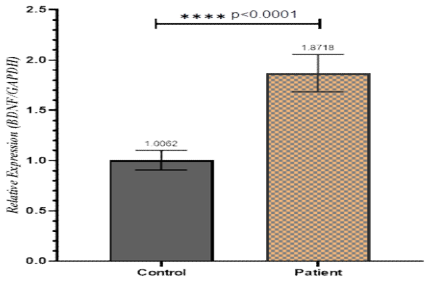
Alzheimer's disease is one of the most destructive neurodegenerative disases. It is mostly seen in people over 65 years old, and is associated with the loss of neurons in specific areas of the brain. Brain –derived neurotrophic factor(BDNF) is involved in the development of neural survival and the synaptic process of memory. BDNF level vary according to the severity of the disease.BDNF can be involved as an important biomarker in the diagnosis of Alzheimer´s disease.we can suggest a treatment for alzheimer´s disease by adjusting the amount BDNF and suppressing the amyloid beta peptide.

Materials and Methods

RNA was isolated from blood of sick and healthy individuals using TRIZOL reagent. cDNA synthesis was done by anchored olig-dTs and RT-PCR was carried out by using BDNF specific primers. We used GAPDH gene as internal control gene. Then qRT-PCR performed to assess of BDNF gene expression level.

Results

Our results indicated that there is a significant relationship between the levels of expression of BDNF with alzhemier´s disease. Real-time PCR results showed that BDNF gene expression is significantly increased in the early stages of the disease and is almost two fold higher than healthy subjects.



Conclusion

Overall, we found that BDNF circulating amount can be used as an important biomarker to diagnosis of Alzheimer´s disease. Although future additional researches are necessary to confirmation of the results.

References

1.Laske C, Stransky E, Leyhe T, Eschweiler G, Wittorf A, Richartz E, et al. Stage-dependent BDNF serum concentrations in Alzheimer's disease. Journal of neural transmission. 2006;113(9):1217-24.

2.Bharani KL, Ledreux A, Gilmore A, Carroll SL, Granholm A-C. Serum pro-BDNF levels correlate with phospho-tau staining in Alzheimer's disease. Neurobiology of aging. 2020;87:49-59