Evaluation of bone density and its relationship with radiographic stage in knee osteoarthritis in years 2017-18

Abstract

Backgrounad and objective: Osteoarthritis is the most comon arthritis and its incidence is directly related to age. According to the related research in the last 30 years , a relationship is reported between severity of osteoarthritis and bone density. Bone density is measured by the means of dual energy x-ray absorptiometry (DEXA scan) in practice and the severity of osteoarthritis is evaluated based on radiographic images and Kellgren Lawrence criteria . In this study we measured these two parameters in our patients to find an association between them.

methods: 123 patients with knee osteoarthritis diagnosis who referred to rheumatology clinic at Imam Khomeini hospital in Ardabil, were selected to participate in our study . Age, sex, weight , height and other variables were collected and analyzed with SPSS program.

Results: A significant correlation is found between Tscore and age of the patients. The Pearson correlation coefficient was -0.38. A significant correlation was also found between Tscore and age and also between Tscore and BMI. For evaluating correlation of Tscore and radiographic stage of patients with osteoarthritis, we used Pearson correlation and the result was positive (coefficient= -0.22). we also conducted multiple regression models to assess each factor's significance. Only age and BMI had a significant effect on Tscore.

Conclusion:A relationship was found between radiographic stage and Tscore in correlation statistics . In regression models , Only BMI and age had a significant effect on Tscore. These results are in accordance to previous studies

Keywords: Osteoarthritis, Tscore , osteoporosis , radiographic stage