Evaluation of serum vitamin D level and its relationship with knee osteoarthritis stage in radiography in 2017-18

Abstract

Background and Objective: Vitamin D is a steroid and lipid-soluble substance that in most cases exposure to sunlight, is the main source of this vitamin. Osteoarthritis is the most common joint affecting disease. Due to low studies on the relationship between the level of vitamin D and the progression of knee osteoarthritis in radiography, in Ardabil and Iran, and the increasing prevalence of osteoarthritis, our objective was to evaluate this issue.

Methods: 158 patients (79 cases and 79 controls) were selected among referral patients to rheumatology clinic of Imam Khomeini Hospital in Ardabil. The relevant questionnaire including demographic information were completed. Radiography in two anterior-posterior and side views of the knees in Imam Khomeini Hospital were performed with. The serum level of 25-hydroxyvitamin D was also measured in the laboratory. Radiographic staging was also subdivided according to Kellgren-Lawrence criteria. The data were analyzed statistically.

Results: In the case group, 60.75% were female and 39.24% were male. In the control group, 58.22% were female and 41.77% were male. The mean age of the patients in the case group was 54.12 ± 4.67 years with a mean age of 67-44 years. The mean age of patients in the control group was 55.37 ± 5.12 years with an age range of 45-68 years. According to the results of this study, there was a significant relationship between patients with knee osteoarthritis based on Kellgren-Lawrence and serum vitamin D level.

Conclusion: Regarding the results of this study, it is recommended that medical doctors should consider vitamin D deficiency in patients with osteoarthritis, and in cases of low levels of it should take action to treat it.

Keywords: Vitamin D, osteoarthritis, knee, radiography