

## Correlation Study between Clinical and Radiological Findings in Knee Osteoarthritis

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**Abstract :** Osteoarthritis (OA) of the knee is the most common form of arthritis and leads to more activity limitations (e.g., disability in walking and stair climbing) than any other disease, especially in the elderly. Recently, impaired proprioceptive accuracy of the knee has been proposed as a local factor in the onset and progression of radiographic knee OA (ROA). Purpose: To compare the clinical and radiological findings in healthy with that of knee OA. Also, to determine if there is a correlation between the clinical and radiological findings in patients with knee OA. Subjects: Fifty one patients diagnosed as unilateral or bilateral knee OA with age ranged between 35-70 years, from both gender without any previous history of knee trauma or surgery, and twenty one normal subjects with age ranged from 35 - 68 years. METHODS: peak torque/body weight (PT/BW) was recorded from knee extensors at isokinetic isometric mode at angle of 45 degree. Also, the Absolute Angular Error was recorded at 450 and 300 to measure joint position sense (JPS). They made anteroposterior (AP) plain X-rays from standing semiflexed knee position and their average score of Timed Up and Go test(TUG) and WOMAC were recorded as a measure of knee pain, stiffness and function. Comparison between the mean values of different variables in the two groups was performed using unpaired student t test. The P value less or equal to 0.05 was considered significant. Results: There were significant differences between the studied variables between the experimental and control groups except the values of AAE at 300. Also, there were no significant correlation between the clinical findings (pain, function, muscle strength and proprioception) and the severity of arthritic changes in X-rays. CONCLUSION: From the finding of the current study we can conclude that there were a significant difference between the both groups in all studied parameters (the WOMAC, functional level, quadriceps muscle strength and the joint proprioception). Also this study did not support the dependency on radiological findings in management of knee OA as the radiological features did not necessarily indicate the level of structural damage of patients with knee OA and we should consider the clinical features in our treatment plan.

**Keywords :** joint position sense, peak torque, proprioception, radiological knee osteoarthritis

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