Evaluation of Ultrasonographic findings in patients with Knee Osteoarthritis and correlation with WOMAC

Abstract

Background: Osteoarthritis is the most common chronic joint disease that affects the elderly and middle-aged people. This disease is the most common cause of limitation of elderly and middle-aged people in daily activities, which significantly affects the quality of life of these people.

Aim: The aim of this study was evaluation of ultrasonographic findings in patients with knee osteoarthritis and correlation with WOMAC.

Materials and Methods: In this cross-sectional study, patients with osteoarthritis of the knee who referred to the rheumatology clinic of Imam Hospital from April 2020 to June 2021 before undergoing the study for other diseases involving the joints, were evaluated by radiographic and laboratory assement. Laboratory tests were included RF, Anti-CCP, ANA, ESR and CRP and patients with positive inflammatory and serological tests were excluded from the study. Then, patients with osteoarthritis were visited by a radiologist for ultrasound findings and underwent ultrasound. At the same time, the WOMAC questionnaire was completed for them.

Results: 138 patients were studied who were over 40 years old and 85.5% of them were female. The joint dryness score was significantly higher in patients with left synovial effusion (4.04 vs. 2.51; p = 0.001). In patients with right synovial hypertrophy, the mean overall score of WOMAC and its sub-branches was significantly higher (61.26 vs. 47.80; p = 0.001) and also in patients with left synovial hypertrophy mean joint dryness score is higher (4.15 vs.3.17; p= 0.017).

Conclusion: The results of the present study showed that in terms of synovium inflammation, which includes hypertrophy and synovial effusion, there is a direct relationship with patients' WOMAC score, since ultrasound modality is non-invasive and available everywhere, and also due to The cheapness of this

modality makes it possible to follow patients with osteoarthritis with this modality. This modality is also reliable in assessing synovial changes, but more accuracy is needed in assessing cases such as osteophyte.
Key words: Ultrasound, Knee Osteoarthritis, Clinical Examination, WOMAC, Joint Pain