

## البحث السادس: مشترك دولي منشور

### **Title: Impact of Obesity on Activity and Severity Parameters of Osteoarthritis**

#### **Abstract:**

Obesity is characterized by increased plasma leptin concentrations. It was found that the elevated plasma leptin concentrations in morbidly obese patients may enhance constitutive immunological stimuli, leading to increased concentrations of acute phase proteins and other inflammatory markers, characteristic for a chronic inflammatory state. The paradigm that obesity predisposes people to OA because of extra-mechanical loading only has been shifted to the paradigm that metabolic factors (adipokines) are also involved in the pathophysiology of OA and hand joints are an ideal target to investigate the role of adipokines since they are not weight-bearing joints. Objective: To assess the impact of obesity and serum leptin levels on OA severity and on functional outcomes. Methods: The study included 48 candidates who were classified into two groups: group I; included 36 patients with OA which further subdivided into two subgroups obese and non obese OA patients. Group II; included 12 healthy non obese individuals as a control group. All candidates were subjected to full history taking, thorough clinical examination and laboratory investigation. OA was assessed using standard functional and radiological scores. Results: The OA group in the present study showed significantly higher WOMAC index, WOMAC total score, VAS of pain, HFAS and K-L score of knee joint in obese OA compared to non obese. Also, obese OA patients had significantly higher serum leptin and CRP levels. OA patients showed a high significant correlation between serum leptin levels and WOMAC scores, VAS of pain and K-L score of knee joint. Patients with erosive OA showed significant difference as regard DIP joint pain but no significance was found in all other parameters. Conclusion: Obesity has not only mechanical effect but also has metabolic effect on the different joints of OA patients. Moreover obesity and elevated serum leptin have a significant effect on clinical symptoms and severity of knee OA patients and on activity only not severity of hand OA patients.