### University of Baghdad

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<th>College Name</th>
<th>BAGHDAD</th>
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<tr>
<td>Department</td>
<td>Biochemistry</td>
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<td>Career</td>
<td>Assistant Lecturer Lecturer Assistant Professor Professor</td>
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<td>Master PhD</td>
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<td>Thesis Title</td>
<td>Effects of CD20 Inhibitor Therapy in Comparison to TNF α Inhibitor Therapy on Serum IL-17 in Patients with Active Rheumatoid Arthritis</td>
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**Abstract**

Background:
Rheumatoid arthritis (RA) is a chronic, systemic, inflammatory disorder that may affect many tissues and organs, but principally attacks flexible (synovial) joints. The pathogenesis of RA is not completely understood.

Objective:
To evaluate the effects of CD20 inhibitor therapy in comparison to effects of TNF α inhibitor therapy on serum IL-17 in patients with active rheumatoid arthritis.

Setting:
This study was performed during the period from October 2012 to May 2013. The subjects were selected from the patients attending the outpatients clinic in Medical City /Baghdad Teaching Hospital / Rheumatology unit and the laboratory tests were done in Medical City /Teaching Laboratories.

Subjects:
The study included 70 patients and 20 healthy control individuals, their age range from 20 – 68 years. The patients were divided into three groups:
- Group (1) consists of 20 RA patients received disease modifying anti rheumatic drugs (DMARDs).
- Group(2) consists of 25 RA patients received biological treatment Etanercept (anti TNFα).
- Group(3) consists of 25 RA patients received biological treatment Rituximab (anti CD20).

Methods:
Enzyme Linkade Immunosorbent Assay (ELISA) test was used for the determination of IL-17, Leptin and hsCRP, while colorimetric method was used for the determination of uric acid.
factor (RF) was detected by serological investigation. The only anthropometric parameter in this study was body mass index (BMI).

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Results:
The current results revealed that serum levels of hsC-RP, ESR and RF were significantly higher in patients than in healthy controls. While serum level of IL-17 was significantly lower in patients who are undertreatment than in healthy control (P < 0.05).

There was significant difference among groups: serum level of IL-17:
- in group 1 higher than in group 2 (P < 0.05)
- in group 2 higher than in group 3 (P < 0.05)

There was no significant difference between all the groups in this study regarding level of uric acid (P > 0.05) and the level of the leptin (P > 0.05), also significant positive correlation among each of ESR, hsC-RP, IL-17 (P < 0.05) and (0 < r < 1+).

Conclusion:
- IL-17 has a significant effect on the pathogenesis of RA.
- IL-17 level is higher in normal people and people with RA receiving DMARDs compared to RA patients receiving biological treatment.
- In patients with biological treatment, these received TNFα inhibitor (Etanercept) has a high IL-17 level compared to these received CD20 inhibitor (Rituximab).
- IL-17 can be used as a marker for RA activity.