Interactions between Interleukin-6 and MDA in Women with Preeclampsia

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Abstract
This study is cross-sectional and conducted from March to July 2019 in Baghdad city to compare the levels of IL-6 and MDA in healthy and pre-eclamptic pregnant women. The number of pregnant women understudy were 60 women 30 normal pregnant women at the full term of pregnancy. Automatic blood pressure monitoring was performed Blood pressure readings were taken at 30minute intervals. Blood were collected from each subject in this study, sera were then extracted and stored for determination of IL-6 and MDA by ELISA technique. The study showed no statistically variance between studied groups regarding patient age and gestational age at sampling and parity (P>0.05) while there was a significant difference between studied cases and the control group regarding systolic and diastolic blood pressure (P <0.05). The study presented that the highest mean level of MDA was found in pregnant women with preeclampsia (4.15±2.34 pg/ml) as compared with healthy women (1.71±0.44 pg/ml), (P<0.01). The study demonstrated that IL-6 mean was significantly elevated in pregnant women with Pre-eclampsia as compared with the control group (6.71±1.14 and 1.66 ± 0.41 pg/ml respectively (P, value <0.01). The study showed strong positive correlation between MDA and IL-6 levels in pregnant women under preeclampsia

Keywords: Preeclampsia; IL-6; MDA; Pregnancy.

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Introduction
Elevated blood pressure in pregnancy is a condition women life, described in the beginning of elevated blood pressure and presence of albumin in urine in the last 50% of growth. Preeclampsia is traditionally viewed as an infection influencing the principal pregnancy, yet it likewise happens in multiparas, for example, DM interminable elevated blood pressure , or an adjustment in spouse/partner(1-3). At the point when it emerges in the early second trimester (14 to 20 weeks), a hydatiform mole or choriocarcinoma ought to be thought of. The accompanying two rules are basic for the determination of preeclampsia(4,5) . Where the high pressure in pregnant women leads to many conditions and conditions such as progression at birth, postpartum disorders and childbirth problems for the fetus, such as low weight and congenital deformities (6). Albumin in urine is characterized as more than or equivalent to 0.3 g protein in a planned 24-hour pee assortments. This normally connects with a urinalysis report of 30 mg/dl (1+ on dipstick) or more prominent on a perfect catch pee sample(7). Expanded degrees of oxidative pressure markers and IL-6 in preeclamptic ladies propose that oxidative pressure markers assume a critical job in the pathophysiology of pre-eclampsia, and that supplemental dietary cancer prevention agents may have an advantageous job in the counteraction of preeclampsia in ladies at high-risk for this condition (8,10). The aim of this study was to compare the levels of IL-6 and MDA in healthy and pre-eclamptic pregnant women.

Material and Methods
This cross-sectional study was conducted on a group of pregnant women who were attending women's advisory halls in the Baghdad hospital from tenth of March 2019 to tenth of July 2019 . The quantity of pregnant ladies understudy were 60 ladies 30 ordinary pregnant ladies at the full term of pregnancy. Hypertensive issue were characterized by characterization of The National High Blood pressure Education program Working gathering on High Blood pressure in pregnancy . Twenty-four-hour automatic pulse checking was performed Blood pressure readings were taken at 30minute spans. For patients who was admitted to the clinic , and two readings of pulse was taken for patients who was not admitted to the medical clinic and analyzed as hypertensive issue rely upon history and assessment and circulatory strain readings that record on antenatal card in each antenatal visit. Estimation of Bp done by sphygmomanometer in sitting situation, with sleeve size fitting to patients arm boundary was utilized, and to take out a potential stressor for the patients, the review of pulse estimation was evacuated. Where the study included the withdrawal of blood samples from all patients and correct women in both groups, where three ml of blood was withdrawn for a while, and the blood was isolated and stored serum extracted in the freeze in order to measure the amount of IL-6 and MDA by ELISA technique

Statistical Analysis
Computerized statistically analysis was performed using IBM SPSS ver 23.1 statistic program for extraction of P. value(< 0.05 significant).

Findings
As shown in Table 1. There was no critical contrast between contemplated cases and the benchmark group in regards to tolerant age and gestational age at examining and equality (P>0.05) while there was a noteworthy distinction between considered cases and the benchmark group with respect to systolic and diastolic circulatory strain (P <0.05).
The study presented that the maximum mean of MDA stayed found in pregnant women with preeclampsia (4.15±2.34 pg/ml) as compared with healthy women (1.71±0.44 pg/ml).

Table 1: General properties of planned women

<table>
<thead>
<tr>
<th>Parameters (Mean±SD)</th>
<th>Pre-eclampsia</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>20</td>
<td>22</td>
</tr>
<tr>
<td>Maternal age (yrs)</td>
<td>32.2±5.9</td>
<td>32.2±6.2</td>
</tr>
<tr>
<td>Gestational age</td>
<td>34.1±3.2</td>
<td>35.4±6.6</td>
</tr>
<tr>
<td>Parity, median (Range)</td>
<td>1 (1–6)</td>
<td>2 (1–6)</td>
</tr>
<tr>
<td>Mean SBP, mm Hg</td>
<td>148.6±14.3*</td>
<td>110.8±7.4</td>
</tr>
<tr>
<td>Mean DBP, mm Hg</td>
<td>96.6±12.9*</td>
<td>69.4±8.3</td>
</tr>
<tr>
<td>Maximal SBP,</td>
<td>177.9±24.1*</td>
<td>119.0±10.2</td>
</tr>
<tr>
<td>Maximal DBP,</td>
<td>118.8±12.8*</td>
<td>74.7±13.3</td>
</tr>
</tbody>
</table>

It was demonstrated that IL-6 was significantly elevated in study cases as compared with the control group (5.71±1.14 and 1.66 ± 0.41 pg/ml) respectively.

Table 2: MDA levels in enrolled women

<table>
<thead>
<tr>
<th>Studied group</th>
<th>No.</th>
<th>MDA (pg/ml) (Mean±SD)</th>
<th>T. test</th>
<th>P. Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preeclampsia women</td>
<td>60</td>
<td>4.27±2.34</td>
<td>6.3</td>
<td>0.006*</td>
</tr>
<tr>
<td>Control group</td>
<td>30</td>
<td>1.71±0.44</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The study showed strong positive correlation between MDA and IL-6 levels in pregnant women under preeclampsia (Figure 1).
DISCUSSION
In the present study, IL-6 uncovered an exceptionally critical rise when recognized in ladies with preeclampsia in examination with sound benchmark group. It is the chemokine which has been required in intense contamination and inflammatory disease (9). Several study detailed a noteworthy increment in the serum centralizations of IL-6, in ladies with preeclampsia, inferred that the expanded cytokines were identified with the aggravation and numerous variables may assume a specific job in the cells harm (11,12). It was accounted for that hypertension pregnancy is related with the creation of a wide scope of proinflammatory cytokines and chemokines, Where the high pressure in pregnant women leads to many conditions and conditions such as progression at birth, postpartum disorders and childbirth problems for the fetus, such as low weight and congenital deformities (13,14).

Regarding MDA level, several studies indicated that patients groups had higher MDA levels compared to controls suggesting that MDA production is increased when preeclampsia was occur in pregnant women (15). Yeni et al(16) demonstrated that a positive correlation between MDA and IL-6 levels since it is obscure for preeclampsia in the third trimester of pregnancy. The assessment reinforces the theory that there is sheltered brokenness in preeclampsia, with an extension in the production of expert inflammatory cytokines like IL-6 and oxidative pressure markers in preeclampsia (19). These outcomes may affirm that IL-6 and oxidative pressure markers plasma fixation could mirror the seriousness of endothelial harm in this gathering of females. Almost certainly, the danger of appearance and movement of some cardiovascular infections in preeclampsia patients with ultrasound fea¬tures of placental inadequacy being a lot higher compared with preeclampsia ladies without such abnormalities (20-22).

CONCLUSIONS
It was concluded that there was a significant relation of IL-6 and MDA in occarance of preeclampsia in pregnant.

REFERENCES
1. Nihad Khalawe Tektook et al / Interactions between Interleukin-6 and MDA in Women with Preeclampsia

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