

Gestational age range was from 20 to 28 weeks (mean gestational age \pm SD = 25.5 ± 1.8 week).

4. Control pregnant during the third trimester (G4):

They were thirty pregnant in the third trimester of pregnancy. Age range was from 18 to 35 years (mean age \pm SD = 24.8 ± 4.6 year). Gestational age range was from 29 to 40 weeks (mean gestational age \pm SD = 34.6 ± 2.1 week).

B. Blood samples:

Ten milliliters of random venous blood were withdrawn from each patient and control, in supine position, without application of tourniquet. Samples were transferred into clean plane tubes, left at room temperature for 15 minutes for clotting, centrifuged, and the separated sera were then divided into two parts:

1) An aliquot of serum was transferred into Eppendorf tube, which was used for measuring nitric oxide expressed as nitrite (the end product of NOS), this was done at the same day of collection⁽¹⁰⁾.

2) Another aliquot of the serum was transferred into Eppendorf tube, which was used for measuring sex steroids (estrogen, progesterone, and testosterone) by enzyme linked fluorescent assay (ELFA) method. The tubes were stored at -20° C until analysis, which was done within one month after collection⁽¹¹⁾.

C-Methods

Nitrite concentration measurement was used as an index of NO synthase activity⁽¹⁰⁾, NO synthase activity is expressed here as the amount of nitrite (in μ moles) formed per minute, whereas the specific enzyme activity is given as the amount of nitrite (in μ moles) formed per minute per mg of protein for plasma⁽¹⁰⁾ (μ mol/min/mg protein).

Estimation of serum total

testosterone was done in the Al-Kadhimya teaching hospital laboratories by Enzyme Linked Fluorescent Assay (ELFA) methods using the VIDAS instrument⁽¹¹⁾.

Results

Serum testosterone:

Serum testosterone was significantly higher in preeclamptics (G1 & G2) compared with normal pregnant (G3 & G4) [$P < 0.001$ for both]. Also serum testosterone was significantly higher in G2 compared with G1 [$P < 0.001$ for both], but there was no significant difference between G3 & G4 [$P < 0.05$] as in Table 1.

Serum Nitric oxide (NO) and nitric oxide synthase (NOS):

In preeclamptic pregnant in the third trimester G2, the maternal serum NO and NOS levels were significantly lower than those in the second trimester G1 [$P < 0.001$ and < 0.05 respectively]. In preeclamptic pregnant G1 & G2, the maternal serum NO and NOS were significantly lower than healthy pregnant G3 & G4 [$P < 0.001$ for both parameters in both groups], this difference was not found between healthy pregnant in the second trimester G3 and the third trimester G4 [$P < 0.05$ for both parameters] as in Table 1.

3.3.1. Correlation between serum testosterone and NO in different groups:

There was a significant negative correlation between serum testosterone and serum NO in preeclamptic groups G1 and G2 [$r = 0.9$, $P < 0.001$ & < -0.05 , figures. 1 & 2 respectively) however, no correlation was seen among the normotensive groups G3 and G4 [$r = 0.1$, $P > 0.05$, $r = 0.06$, $P > 0.05$; figs. 3 & 4 respectively).