

(G2): They were 30 with age range from 18 to 40 year (mean age \pm SD = 25.1 ± 6.9 year), and gestational age range from 29 to 40 weeks (mean gestational age \pm SD = 35.6 ± 1.6 week)

The study included another 60 apparently healthy pregnant women attending the Antenatal clinic, and Labor Ward at Al-Kadhimiya Teaching Hospital, for re-evaluation of their pregnancy, or for delivery. They were included as normal controls. They were comparable with preeclamptic groups regarding the age and the gestational age. They were divided into two groups according to their gestational age:

1-Normal pregnant women in the second trimester **(G3):** They were 30 with age range from 15 to 38 years (mean age \pm SD = 24.6 ± 4.5 year), and gestational age range from 20 to 28 weeks (mean gestational age \pm SD = 25.5 ± 1.8 week).

2-Control pregnant during the third trimester **(G4):** They were 30 with age range from 18 to 35 year (mean age \pm SD = 24.8 ± 4.6 year) and gestational age range from 29 to 40 weeks (mean gestational age \pm SD = 34.6 ± 2.1 week).

B. Blood & urine 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Ten milliliters of random venous blood were withdrawn from each patient and control, in supine position, without application of tourniquet.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 new plane tube, 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) The rest of serum was transferred into Eppendorf tube and was used for

measurement of electrolytes (Na, K)⁽¹¹⁾. The tubes were stored at -20°C until analysis, which was done within one month after collection⁽¹¹⁾.

Random urine specimens were obtained from each subject in the study to quantify urinary sodium and potassium⁽¹¹⁾ that was expressed as a ratio to the urinary creatinine⁽¹¹⁾.

As a preservative, 1-2 mls of 6M HCl was added to each random urine specimen; the samples were stored in appropriate containers at -20°C until analysis within one month after collection⁽¹¹⁾.

C-Methods

Nitrite concentration measurement can be used as an index of NO synthase activity⁽¹⁰⁾, this basic principle was used throughout the study. NO synthase activity is expressed here as the amount of nitrite (in μmoles) formed per minute, whereas the specific enzyme activity was given as the amount of nitrite (in μmoles) formed per minute per mg of protein for plasma⁽¹⁰⁾ ($\mu\text{mol}/\text{min}/\text{mg}$ protein). Serum and urinary sodium and potassium were analyzed by atomic absorption spectrophotometer⁽¹¹⁾.

Results

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 [$P < 0.001$ for NO, < 0.05 for NOS]. 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 & both groups], this difference was not found between healthy pregnant in second trimester G3 nor in third trimester G4 [$P > 0.05$ for both parameters] as in Table 1.