

## **FIRST TRIMESTER SERUM HOMOCYSTEINE LEVELS: PREDICTION PARAMETER FOR PREECLAMPSIA**

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The association between high homocysteine levels and vascular disease has been well documented. In vitro studies suggest that the pathogenesis of vascular disease associated with homocysteine is related to endothelial dysfunction, smooth muscle proliferation, and abnormalities of coagulation patterns. Endothelial cell dysfunction in turn leads to aberrant vascular reactivity, altered vascular integrity and initiation of coagulation cascade.

**Objective:** The aim of the current workout is to determine if serum homocysteine level in first trimester pregnancy is associated with subsequent development of preeclampsia.

**Material and Method:** This is an ongoing, nonrandomised, prospective study. Screening visit: First trimester pregnant women with viable intrauterine embryos (as assessed by ultrasonography). Blood samples were obtained at the first visit where intravaginal ultrasound revealed viable intrauterine embryos. Exclusion criteria: renal disease, pre-existent hypertension, APLS and trombophyllia. Inclusion criteria: asymptomatic screened women who subsequently developed severe preeclampsia. Controls were matched for gestational age, parity and date of sample collection. Plasma homocysteine level was measured by using fluorescence polarization immunoassay.

**Results:** There were 17 patients with medium and severe preeclampsia from whom blood samples were obtained at a mean gestation age of 7,8 weeks (7,0 &#8211; 8,4 weeks) and 98 controls at 8,3 weeks (6,8 &#8211; 8,5 weeks). The preeclampsia cases had a mean homocysteine level of 10.1  $\mu\text{mol/L}$  ( $\pm 2.8 \mu\text{mol/L}$ ), whereas controls had a mean homocysteine level of 8.1  $\mu\text{mol/L}$  ( $\pm 1.7 \mu\text{mol/L}$ ).

**Conclusions:** Women who eventually develop medium-severe preeclampsia have higher serum homocysteine levels in early pregnancy than women who have normal blood pressure during pregnancy.

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