

Evaluation of maternal placental growth factor in suspected pre-eclamptic women

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Objective

To assess serum level of maternal PIGF in pregnant women with high risk of developing preeclampsia and its role in prediction of fetal and maternal outcomes.

Methods

The study was a case series randomized study conducted on 250 pregnant females with high risk of developing preeclampsia attending antenatal care clinic in El-Shatby maternity university hospital. Women were approached individually, after being consented to be included in the study, and they were asked for blood samples to assess serum level of placental growth factor.

Results

In the present study, 19.6% of the included cases presented with serum PIGF value <12 pg/ml, 36.7% of cases presented with serum PIGF value ranged from 12 to 100 pg/ml and 44% of cases presented with serum PIGF value >100 pg/ml. There was no significant association between the values of serum PIGF and each risk factor of developing preeclampsia. There was no significant relation between serum PIGF levels and increase in blood pressure measurements during subsequent visits. There was significant relation between abnormal values of serum PIGF and abnormal fetal doppler US findings, development of complications during pregnancy and early termination of pregnancy before 35 weeks of gestation as 22.1% of cases with serum PIGF values ≤ 100 pg/ml developed abnormal fetal doppler US findings, 13.6% of cases with serum PIGF ≤ 100 values pg/ml developed preeclamptic complications during pregnancy most commonly fetal distress detected by biophysical profile and 13.6% of cases with serum PIGF values ≤ 100 pg/ml needed termination of pregnancy < 35 weeks of gestation.

Conclusion

Maternal serum placental growth factor (PIGF) level can be used as a prognostic marker for high risk preeclamptic, independent of blood pressure, high and intermediate risk factors of developing preeclampsia. Abnormal maternal serum PIGF levels represent placental dysfunction and insufficiency and according to our study it can be used for screening as it is a good negative test.