

## ***SUMMARY AND CONCLUSION***

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Preeclampsia is a multisystem disease typically occurring in the late pregnancy, the usual clinical manifestation being hypertension, proteinuria and oedema. In recent years, an increasing amount of evidence supports the concept that preeclampsia is an endothelial disease. The purpose of our study was to evaluate the extent to which vascular endothelial cell dysfunction is involved in the pathophysiology of preeclampsia. So, the possible relation between nature, severity of preeclampsia and plasma fibronectin, antithrombin III and  $\alpha_2$ -antiplasmin was studied.

This study has been done on 100 patients attending the obstetric and gynecology department Benha University Hospital and kafr shokr General Hospital from January 1992 to November 1993. The cases were classified to the following groups:

- Control non pregnant women comprises 10 cases.
- Normal pregnant group comprises 20 cases (10 primigravidae and 10 multigravidae).
- Chronic hypertensive pregnant patients comprises 20 cases (10 mild and 10 severe).
- True preeclamptic patients comprises 20 cases (10 mild and 10 severe).
- Severe preeclamptic patients with disseminated intravascular coagulation (DIC) comprises 10 cases.

The age of all cases ranged from 20-45 years old. All cases were subjected to full clinical examination and laboratory investigations. From all cases the venous blood were taken, plasma were separated and

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estimated for fibronectin by radial immunodiffusion and antithrombin III,  $\alpha_2$ -antiplasmin by chromogenic methods.

**The following results were obtained:**

The plasma fibronectin was significantly increased in normal primigravidae than control non pregnant, in normal multigravidae than normal primigravidae, in true preeclamptic patients than normal primigravidae and in severe true preeclamptic patients than mild one. Also, it was significantly increased in superimposed preeclamptic patients than chronic hypertensive pregnant patients and in severe superimposed preeclamptic patients than mild one. But, it was significantly decreased in severe preeclamptic patients with DIC than without DIC. These fibronectin patterns could be explained by either vascular endothelial injury release, increased production, enzymatic degradation resulting in multimers, decreased excretion of fibronectin or may be due to its incorporation into fibrin clot.

On the other hand, plasma antithrombin III and  $\alpha_2$ -antiplasmin were significantly decreased in true preeclamptic patients than normal primigravidae. Also,  $\alpha_2$ -antiplasmin was significantly decreased in superimposed preeclampsia than chronic hypertensive pregnant patients. Furthermore, the antithrombin III and  $\alpha_2$ -antiplasmin were significantly decreased in severe preeclampsia with DIC than without. These findings explained by either enhanced consumption, decreased synthesis or increased excretion of both antithrombin III and  $\alpha_2$ -antiplasmin.

Moreover, there was significant positive correlation between fibronectin and maternal age, parity in normal pregnancy. While, there was significant negative correlation between plasma fibronectin and platelet

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count, placental weight, foetal weight and Apgar score in preeclampsia. At the same time there was significant positive correlation between  $\alpha_2$ -antiplasmin and foetal, placental weight and Apgar score in preeclampsia.

So, we conclude that the increased plasma fibronectin is of value for the nature and severity of preeclampsia as the high level of plasma fibronectin supports, the vascular endothelial injury theory and the severity of preeclampsia as it increased in severe preeclampsia than in mild one. However, the decreased plasma level of fibronectin is of value in severe preeclampsia complicated with DIC. Moreover, the increased plasma fibronectin is of value for foetal outcome assessment as the increased plasma fibronectin was negatively correlated with foetal weight and Apgar score.

While, the decreased plasma antithrombin III and  $\alpha_2$ -antiplasmin activities are of diagnostic and prognostic value specifically in severe preeclampsia as they significantly decreased. And, the low level of  $\alpha_2$ -antiplasmin is of value for foetal outcome assessment as it is significantly positively correlated with foetal weight and Apgar score in preeclampsia.

### **Recommendation:**

The estimation of plasma fibronectin, antithrombin III  $\alpha_2$ -antiplasmin are essential, for early diagnosis of preeclampsia, development of complicated preeclampsia with disseminated intravascular coagulation (DIC) and foetal outcome assessment.