The Role of Endothelial Dysfunction & Oxidative Stress in Preeclampsia

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Abstract

Background: Preeclampsia is one of the most frequent complications of pregnancy; however its etiology is not proved yet. Endothelial dysfunction serves as a causative factor in the initiation of the maternal pathophysiological changes of preeclampsia & is not just a result of this disorder. Preeclampsia is associated with endothelial dysfunction & could be caused by oxidative stress. Recent evidence suggests the role of oxidative stress in the etiology of preeclampsia.

Aim: To determine the role of endothelial dysfunction & oxidative stress in the pathophysiology of preeclampsia.

Materials and Methods: The study represents a case control study. The study sample included three groups, group (1) fifty non pregnant women, group (2) fifty normotensive pregnant women, group(3) fifty preeclampsia pregnant women in their third trimester attending AL-Batool Maternity Teaching Hospital during the period from 1st of March 2011 to 1st of March 2012. Five ml of fasting venous blood was collected & used to measure the endothelin-1 by ELISA kit & malonalldihyde by a reagent method.

Results: There was a highly significant elevation (p=0.001) in the serum level of endothelin-1 & malonalldihyde in the preeclampsia pregnant women in comparison with the normotensive pregnant women and non pregnant women.

Conclusions: Elevated serum level of endothelin-1 & malonalldihyde in preeclampsia women suggested the role of endothelial dysfunction & oxidative stress in the etiology of preeclampsia.

Key Words: endothelin-1, malonalldihyde, preeclampsia