

## HISTOLOGICAL CHANGES IN PLACENTA OF PATIENTS WITH PRE ECLAMPSIA

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### Abstract

**Background:** Preeclampsia is a major disease of human reproduction, with 10% of human births being affected, mainly a systemic endothelial disease causing activation of platelets and diffuse ischemic disorders.

**Objectives:** The study aims to demonstrate the histological changes in placenta of women suffering from hypertensive disease.

**Methods:** Placental samples were obtained from 15 healthy uncomplicated pregnancies and 35 pregnancies complicated by intrauterine growth restriction due to severe preeclampsia. Samples were prepared and examined by light microscope.

**Results:** Variable changes have been observed in different patients, including degeneration of most of endothelial cells, degeneration of major trophoblast cells, hyalinization and fibrotic trophoblast cells in some patient sections and fatty infiltration within trophoblast cells in other patient sections.

**Conclusion:** The primary cause of preeclampsia is a disturbed growth of trophoblast cells with the degeneration of major endothelial cells.

**Key words:** Preeclampsia, Placenta, histological changes.

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### Introduction

The hypertensive disorders of pregnancy complicate about 7-10% of all pregnancies<sup>[1]</sup>. Pregnancy induced hypertension, which includes preeclampsia, and eclampsia is responsible for 70%, where as chronic hypertension represents 30% of hypertensive disorders in pregnancy. Gestational hypertension (Preeclampsia) is a major disease of human reproduction, with 10% of human births being affected<sup>[2]</sup>.

Preeclampsia is mainly a systemic endothelial disease causing activation of platelets and diffuse ischemic disorders<sup>[3,4]</sup>. It is characterized by generalized activation of maternal endothelial cells. Oxidative stress of the placenta is considered a key intermediary step, precipitating deportation of apoptotic fragments into the maternal circulation<sup>[5,6]</sup>.

Since studies over the past decade have provided a better understanding of the

potential mechanisms responsible for the pathogenesis of preeclampsia, the initiating events in preeclampsia has been postulated to be reduced uteroplacental perfusion as a result of abnormal cytotrophoblast invasion of spiral arterioles. Placental ischemia is thought to lead to widespread activation dysfunction of the maternal vascular endothelium that results in enhanced formation of endothelium and thromboxane<sup>[7,8]</sup>.

The present paper was designed to study the histological changes in placenta of women suffering from hypertensive disease.

### Materials and Methods

This work was carried out in the department of Obstetrics and Gynecology, at Al-Kadhiymia Teaching Hospital in Baghdad, for a period of ten months, from 1<sup>st</sup> August, 2000 to the 1<sup>st</sup> June 2001. 50 women were enrolled in the study, all were in early labor and sharing the following criteria:

1. All were singleton pregnancies.
2. Their parities were between 0- 4,

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