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Opinion

Preeclampsia through the Eyes of the Woman

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Introduction

Preeclampsia is a major cause of maternal and perinatal mortality and morbidity. It is a multisystem disorder characterized by hypertension (≥ 140 mm Hg systolic or ≥ 90 mm Hg diastolic) and proteinuria (≥300 mg/day), that occurs after 20 weeks of pregnancy and can present as late as 4 - 6 weeks post-partum [1,2].

Although preeclampsia affects 2 - 10% of pregnancies, the reported incidence shows great variation due to differences in definition, demographic characteristics and diagnostic criteria [3].

The aetiology remains enigmatic although several risk factors such as nulliparity, hypertension, previous preeclampsia, genetic factors, maternal obesity, diabetes mellitus and twin pregnancy contribute to preeclampsia [4,5].

Discussion

The pathophysiology of preeclampsia can be divided into two stages: alterations in placental perfusion (stage 1) and the maternal syndrome (stage 2).

Stage 1

The reduced placental perfusion is primarily due to abnormalities in implantation and vascular remodelling [6]. The precisely regulated expression of molecules involved in attachment and invasion in response to environmental and maternal signals is disordered in preeclampsia [7].

Stage 2

Blood flow to organs other than the placenta is reduced, leading to hemorrhage and necrosis. Vasoconstriction, microthrombi formation and reduced plasma volume can lead to the systemically reduced perfusion. An increased sensitivity to endogenous pressor agents contributes to loss of fluid from the vascular compartment. Pre-eclampsia also is characterized by activation of the coagulation cascade [8].

Clinical manifestations

Significant maternal morbidity is observed in about 15% of cases with severe pre-eclampsia. Several maternal organ systems are susceptible to endothelial damage such as the CNS, lungs, kidneys, heart and liver. HELLP syndrome is reported in 10 - 20% of severe preeclampsia cases [9].

Ocular symptoms appear up to 25% of severe preeclampsia cases and 50% of women with eclampsia, but complete blindness is uncommon [10].

Ocular involvement includes conjunctival vascular anomalies, hypertensive retinopathy, exudative retinal detachment, vitreous and pre-retinal haemorrhages, ischemic optic neuropathy and hypertensive choroidopathy. It is believed that the presence of changes in the retinal arterioles reflects similar changes in the placenta.

Multiple hard exudates in retina may be a sign of albuminuric retinopathy which could indicate damage to the kidneys. A significant association between the progression of retinopathy and the progression of pre-eclampsia has been described [11].

Conclusion

Close monitoring and timing of delivery remain essential in both fetal and maternal outcome. A constant cooperation between several specialties is required in order to avoid undetected complications.

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