

Effects of Methyldopa and Nifedipine on Uteroplacental and Fetal Hemodynamics in Gestational Hypertension

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Objective. Investigation of methyldopa and nifedipine effects on maternal and fetal hemodynamics in women with mild gestational hypertension during the third pregnancy trimester. **Methods.** A prospective cohort study. Methyldopa effects were followed in 28 patients, and nifedipine effects in another 28 patients. There were also 28 healthy controls. **Results.** Uterine artery blood velocity waveform indices were improved only by nifedipine. Neither of the drugs affected the indices in umbilical and fetal middle cerebral artery. Both drugs normalized maternal blood pressure and pulse. **Conclusions.** Methyldopa and nifedipine did not show clinically significant influence on umbilical artery and fetal cerebral blood flow.

Keywords Antihypertensive agents, Blood circulation, Fetus, Gestational hypertension.

INTRODUCTION

Gestational hypertension is well-defined type of hypertension in pregnancy, characterized by an increase in arterial blood pressure $\geq 140/90$ mmHg after 20th week of pregnancy, without accompanying proteinuria, and normalized no later than 12th week after delivery (1). It is unclear whether maternal and fetal risks of adverse outcomes in gestational hypertension are significantly increased (2), but the risk of progression to preeclampsia is increased for 25% on average (3), and even for 50% if gestational hypertension emerged before 30th gestational week (4).

Mild gestational hypertension is rarely treated by antihypertensives nowadays, because of the reports showing that antihypertensive therapy in women with mild gestational hypertension does not improve perinatal outcomes (5). However, if a gynecologist decides to treat such gestational hypertension with antihypertensives, methyldopa and nifedipine are drugs of choice for mild gestational hypertension (6). Methyldopa is usually preferred, as its fetal safety profile is better (7). Both drugs are almost equally effective in lowering of blood pressure during pregnancy (8), and their maternal adverse effects are

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