

자간전증에서 자궁정맥혈장내 지질과산화물과 단백질산화 촉진능

김윤하 · 송태복 · 김철홍 · 조문경 · 김기민 · 양성렬* · 안봉환* · 주은현[†]

전남대학교 의과대학 산부인과학교실, 생화학교실*, 여수 전남병원 산부인과[†]

Objective: This study was performed to compare the lipid peroxidation and prooxidative activity stimulating the protein carbonyl formation by amoxicillin, erythromycin, and moxalactam in the uterine venous plasma of preeclampsia with those of normal pregnancy.

Methods: Lipid peroxide levels in the uterine venous plasma of normal pregnancy (n=18) and preeclampsia (n=18) were measured by thiobarbituric acid reaction. The basal protein carbonyl contents in the uterine venous plasma of normal pregnancy (n=18) and preeclampsia (n=18) were determined by the 2,4-dinitrophenylhydrazine (DNPH) method. After the uterine venous plasma were mixed and incubated up to 5 hours with 0.2 mL of 1 mM amoxicillin, erythromycin, and moxalactam the protein carbonyl contents in them were measured by DNPH.

Results: Lipid peroxide levels in the uterine venous plasma of preeclampsia were significantly higher than that of normal pregnancy (3.14 ± 1.22 vs. 2.17 ± 1.18 nmol/mg protein, $p < 0.05$). There was no significant difference between two groups in the basal levels of protein carbonyl in the uterine venous plasma (5.95 ± 0.61 vs. 6.75 ± 0.55 nmol/mg protein, $p = \text{NS}$). Protein carbonyls formation by moxalactam in the uterine venous plasma of preeclampsia were significantly higher than that of normal pregnancy (19.80 ± 2.08 vs. 10.90 ± 0.72 nmol/mg protein, $p < 0.01$). There were significant positive correlations between lipid peroxide and moxalactam induced protein carbonyls levels of uterine venous plasma ($p < 0.01$).

Conclusion: These results suggest that increase in the lipid peroxidation and prooxidative activity stimulating the oxidative modification of proteins in utero-placental unit may be involved in the pathogenesis of preeclampsia.

Key words: Preeclampsia, Uterine venous plasma, Lipid peroxide, Oxidative modification of protein