

# Different expression pattern of CXCL 12 in the placenta of normal and preeclamptic women

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## Objectives (목적)

Hypoxia-induced CXCL12 (SDF1, stromal cell derived factor 1) expression is crucially important in the selective homing and migration of CXCR4 (unique receptor of CXCL12) positive progenitor cells to guide vasculogenesis and angiogenesis to ischemic tissues. The aim of this study is to investigate the expression pattern of CXCL12 in placentas of normal and preeclamptic women.

## Methods (연구 방법)

Placentas from 31 patients with severe preeclampsia and 32 normal pregnant women were collected after placental delivery at Konkuk University Medical Center. Immunohistochemical staining with CXCL12 (SDF1) antibody was done for each placenta. Imaging analysis for each stained slide was done with analySIS TS Auto (Olympus, Tokyo, Japan).

## Results (결과)

In the placentas of both normal and preeclamptic pregnancies, CXCL12 was only immuno-positive in the trophoblast cell. Mesenchymal connective tissue, cytotrophoblast, endothelial cell, and decidual cell were immuno-negative. Analyzed by imaging analyzer, the intensity of staining for CXCL12 in trophoblast cell was significantly stronger in preeclamptic placenta compared with normal ( $p < 0.001$ ).

## Conclusions (결론)

This study showed that the expression of CXCL12 was increased in trophoblast cell of preeclamptic placenta. It may suggest that such increase lead to recruit a great number of CXCR4 positive progenitor cell for compensation of hypoxic condition in preeclamptic placenta. It may be a kind of compensatory mechanism for preeclamptic condition.