

cisplatin 유발 급성신부전에서 interleukin-1 α 역할에 대한 연구

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Interleukin-1 α Deficient Mice are Protected Against Cisplatin-Induced Acute Renal Failure

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Background: For unknown reasons, caspase-1 $-/-$ mice which were protected against cisplatin-induced acute renal failure (ARF) are deficient in IL-1 α . Therefore, we questioned whether deficiency of IL-1 α might explain the mechanism of protection against cisplatin-induced ARF in caspase-1 $-/-$ mice.

Methods and Materials: Cisplatin (30 mg/kg) was injected intraperitoneally into wild-type C57BL/6 mice in order to produce a cisplatin-induced ARF model. IL-1 α was measured in vehicle and cisplatin-treated wild type. And, we performed a study to evaluate the question of whether IL-1 α $-/-$ mice possessed significant protection against cisplatin-induced ARF. Additionally, infiltration of CD11b and CD49b positive cells as a marker of macrophages, natural killer and natural killer T cells (pan-NK cells) was investigated in wild type and IL-1 α $-/-$ mice.

Results: Compared to vehicle-treated mice, renal IL-1 α increased in cisplatin-treated wild type from Day-1. IL-1 α $-/-$ mice were protected against cisplatin-induced ARF. No significant differences in infiltration of neutrophils, CD11b and CD49b positive cells were observed between wild type and IL-1 α $-/-$ mice.

Conclusion: IL-1 α deficient mice are protected against cisplatin-induced ARF. Lack of IL-1 α may explain, in part, the protection against cisplatin-induced ARF observed in caspase-1 $-/-$ mice. Investigation of protective mechanisms in IL-1 α $-/-$ mice in cisplatin-induced ARF merits further study.

Key Words: 시스플라틴, interleukin-1 α , 급성신부전

Cisplatin, interleukin-1 α , Acute kidney injury