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Polymorphism of hypoxia-inducible factor-1α gene in children with acute respiratory distress syndrome

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Aim: To investigate hypoxia-inducible factor-1α (Hif-1α) polymorphism in children with Acute Respiratory Distress Syndrome (ARDS). ARDS may be resulted in by pulmonary and extra pulmonary causes. In the present study, we examined whether hypoxia-inducible factor-1α (HIF-1α) polymorphisms are associated with the acute respiratory distress syndrome.

Method: 22 patients with ARDS and 11 non-ARDS controls were examined in pediatric intensive care unit in Cukurova University Hospital. Blood samples were collected from subjects. Polymerase chain reaction-restriction fragment length polymorphism was used to assess the C1772T and G1790A polymorphisms in the HIF-1α gene, and differences in genotypes between the 2 groups were compared.

Result: C1772T polymorphism was not observed between pulmonary ARDS cases and non-ARDS controls. Particularly, G1790A polymorphism was significantly different in between pulmonary ARDS and non-ARDS cases. In addition, G1790A polymorphism was statistically related to the extensity of ARDS in lung parenchyma in ARDS patients ($p<0.05$).

Conclusion: Our results indicated that Hif-1α G1790A polymorphism was associated with an increased susceptibility to pulmonary ARDS in children. The investigating of G1790A polymorphism seen commonly could lead pediatricians to predict the extensity of ARDS early in lung tissue.

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