

CHRD 2024: Abstract Submission Form

Presenter Name

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Presenter Status

Post-Doctoral Fellows

Role in the project

Perform Experiments
Analyze Data
Write Abstract

Research Category

Basic Science

Title

The expression of Cathelicidin increases in nitrofen-induced congenital diaphragmatic hernia lungs

Background

Congenital diaphragmatic hernia (CDH) occurs approximately 1 in 3000 live births. CDH is associated with abnormal lung development and the pathogenesis is unknown. Cathelicidin is a defense peptide with a wide range of biological responses including antimicrobial, immunomodulatory and wound healing.

Objective

We hypothesize that if the expression of cathelicidin increases in CDH lungs, it could be said that some kind of immune regulation is at work. We present a comparison of cathelicidin expression between rat lungs of control and nitrofen-induced CDH.

Methods

To investigate the expression of cathelicidin, we dissected lungs from control and nitrofen-induced CDH rats on embryonic day 15, 18, 21 (E15, E18, E21). To quantify the expression of cathelicidin, we performed quantitative reverse transcription PCR (RT-qPCR). Data were analyzed using t-tests and a p-value less than 0.05 was considered statistically significant.

Results

RT-qPCR data showed that expression of cathelicidin increased in E15, E18 nitrofen lungs (E15: $p=0.013$, E18: $p<0.001$, respectively). In E21, the expression of cathelicidin was similar between two groups ($p=0.298$).

Conclusion

Our data show that the expression of cathelicidin increases in nitrofen-induced CDH lungs in E15 and E18. In future studies, we need to define the precise mechanisms of cathelicidin action in CDH lungs.

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No

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