

# European Respiratory Society Annual Congress 2012

**Abstract Number:** 281

**Publication Number:** P1105

**Abstract Group:** 7.2. Paediatric Asthma and Allergy

**Keyword 1:** Animal models **Keyword 2:** Allergy **Keyword 3:** Asthma - mechanism

**Title:** The effect of 1,25-(OH)<sub>2</sub>D<sub>3</sub> supplementation on the expression of vitamin D receptor (VDR) on the lung of baby rats with asthma

Dr. Lingyan 901 Chen chenlingyan0302@163.com , Dr. Jianguo 902 Hong hongjianguo@hotmail.com MD , Dr. Xiaojian 903 Zhou zhouxiaojian504@hotmail.com , Dr. Xia 904 Li zhhlixia@live.cn and Dr. Zhen 905 Li zjplz301@sina.com . <sup>1</sup> Pediatrics, The First People's Hospital Affiliated to Shanghai Jiaotong University, Shanghai, China .

**Body:** Aim: To investigate the effect of different doses of 1,25-(OH)<sub>2</sub>D<sub>3</sub> supplementation on the expression of vitamin D receptor in the lung of baby rats with asthma. Methods Thirty two Wistar rats were randomly divided into four group and were given different doses of 1,25-(OH)<sub>2</sub>D<sub>3</sub> except for the control group receiving normal saline. Then we chose eight weaned baby rats to establish asthma model. Expression of VDR was measured by immunochemistry and RT-PCR. Results: Light microscope showed that inflammation was less serious in medium and low dose group, but more seriously in high group.

Immunohistochemistry indicated that the expression of VDR decreased in low and medium dose group, but increased in the high group(p<0.01).

The VDR expression in the lung of asmatic rat of different groups

Groups	n	VDR (IOD) value
control group	8	9.29±2.84
low dose group	8	8.10±2.01
medium dose group	8	6.89±3.22
high dose group	8	13.33±4.49
F value		11.017
P		<0.001

RT-PCR were consistent with immunohistochemistry.

The VDR mRNA expression in the lung of asmatic rats of different groups

Groups	n	VDR mRNA
contol group	8	1
low dose group	8	0.6094±0.19129
medium dose group	8	0.5092±0.18242
high dose group	8	7.8635±2.21018

Conclusions Appropriately 1,25-(OH)<sub>2</sub>D<sub>3</sub> supplementation decrease VDR expression and alleviate airway inflammation in baby rats with asthma, while overdosage supplementation might play deterimental effect.