DETERMINATION OF LEUKOTRIENES IN CHILDREN WITH BRONCHIOLITIS CAUSED BY RESPIRATORY Syncytial VIRUS

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**Objective:** To measure the concentration of leukotrienes in nasopharyngeal secretion and urine, and to investigate the role of leukotrienes in the pathogenesis of respiratory syncytial virus (RSV) bronchiolitis.

**Methods:** Totally 63 infants were enrolled in this study; 42 of them, who suffered from RSV bronchiolitis, were assigned into trial group, and the other 21 subjects who only had respiratory infection without wheezing were enrolled into the control group. And RSV antigen of these 21 subjects were negative. Nasopharyngeal secretion and urine specimens were collected on the first and the seventh day after the admission. Leukotriene C4 (LTC4) and leukotriene E4 (LTE4) were analyzed with ELISA. Data were analyzed with SPSS software.

**Results:** LTC4 of NPS in RSV bronchiolitis group was 14.89 pg/µg protein, which was higher than that in control group (2.10 pg/µg protein). There was statistical difference between these two groups (p=0.006). LTE4 of urine was 123.90±81.43 pg/mg creatinine in RSV bronchiolitis group and 46.51±33.42 pg/mg creatinine in the control group (p=0.000). Neither LTC4 nor LTE4 had statistically significant difference (p=0.561; p=0.991) between the specimens collected on the first and seventh admission day. According to the severity of illness, we separated the infants in RSV bronchiolitis group into two subgroups (mild and moderate illness groups). Levels of LTs in these two groups had no statistically significant difference.

**Conclusions:**
1. The concentration of LTC4 in NPS of the infants with RSV bronchiolitis was significantly higher than that in the control group.
2. The concentration of LTE4 in urine of the infants with RSV bronchiolitis was significantly higher than that in the control group.
3. The concentrations of LTs detected in samples collected on the first and seventh admission day had no statistically significant difference.
4. LTs levels in infants of subgroups with different severity of RSV illness had no significant difference.

**Key Words:** Respiratory syncytial virus, Bronchiolitis, Leukotriene C4, Leukotriene E4