European Respiratory Society
Annual Congress 2013

Abstract Number: 5283

Publication Number: P576

Abstract Group: 3.2. Airway Cell Biology and Immunopathology

Keyword 1: Asthma - management **Keyword 2:** Animal models **Keyword 3:** Epithelial cell

Title: Influence of different asthma treatments on TSLP, foxp3 and ZO-1 proteins reflecting inflammation and epithelial barrier function

Dr. Ozge 32412 Yilmaz oyilmaz_76@hotmail.com MD [1], Dr. Meral 32413 Karaman meral.karaman@deu.edu.tr MD [2], Dr. Fatih 32414 Firinci fatihfirinci@yahoo.com MD [3], Dr. Ahmet 32415 Turkeli aturkeli65@hotmail.com MD [1], Dr. Esra 32416 Toprak toprakesra@yahoo.com MD [1], Prof. Dr Sevinc 32420 Inan sevincinan@yahoo.com MD [4] and Prof. Dr Hasan 32427 Yuksel hyukselefe@hotmail.com MD [1]. [1] Dept. of Pediatric Allergy and Pulmonology, Celal Bayar University Medical Faculty, Manisa, Turkey ; [2] Multidisciplinary Laboratory, Dokuz Eylül University Medical Faculty, Izmir, Turkey ; [3] Dept. of Pediatric Allergy and Immunology, Dokuz Eylül University Medical Faculty, Izmir, Turkey and [4] Dept. of Histology and Embryology, Celal Bayar University Medical Faculty, Izmir, Turkey .

Body: Introduction: Thymic stromal lymphopoietin (TSLP) is thought to increase foxp3 expression and epithelial barrier elements. We aimed to investigate classical and experimental asthma treatments on TSLP, fox p3 and epithelial barrier element ZO-1. Methods: We developed experimental asthma model using intraperitoneal (IP) and inhaled ovalbumin in 32 BALB/c mice which were grouped into four. Each group received either IP saline, IP etanercet (anti-TNF), IP bevacizumab (anti-VEGF) or IP dexamethasone. TSLP, fox p3 and ZO-1 were stained on lung samples with immunohistochemical indirect avidin-peroxidase method and semi-quantified with H-score. Results: TSLP was found to decrease in each of the dexamethasone, anti-TNF and anti-VEGF groups compared to untreated asthma group (p=0.004, p=0.003 and p=0.002 respectively). However, treatment groups were not significantly different from each other.

Table 1. Comparison of TSLP, Foxp3 and ZO-1 levels between the groups*

Group	TSLP	Foxp3	ZO-1
Untreated asthma	246.0 (215.0-266.0)	65.0 (60.0-69.0)	66.5 (60.0-69.0)
Dexamethason	174.0 (157.8-207.0)	65.0 (60.0-69.5)	69.5 (65.5-72.0)
Anti-TNF	189.0 (157.0-205.5)	67.5 (64.5-69.5)	72.5 (69.0-75.0)
Anti-VEGF	167.0 (139.0-201.0)	69.5 (65.5-72.5)	70.0 (64.5-78.5)
p**	0.002	0.227	0.099

*Values are expressed as median (interquartile range) **Kruskall Wallis test

Conclusion: Our results demonstrate that conventional and experimental asthma treatments decrease TSLP

but this decrease does not have an influence on foxp3 or ZO-1. The epithelial barrier enhancing properties of TSLP that have been demonstrated in previous research might be through proteins of epithelial barrier structure other than ZO-1.