We showed that during acute allergic reaction the majority of circulating basophils are removed from the bloodstream. Those marked cellular and relating whole blood FcεRI expression changes could also be a novel biomarker for supporting the clinical diagnosis of anaphylaxis.

**P.B.12.10**

**Contact hypersensitivity to dinitrochlorobenzene induces systemic immunomodulatory effects that are strain-dependent**

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Introduction: Contact hypersensitivity (CHS) is animal model of allergic contact dermatitis, common skin inflammatory disease. Although mechanisms of CHS are much studied, systemic effects in challenge phase are far less known.
Materials and methods: Parameters of adaptive and innate/inflammatory reaction were examined locally (ear skin cells) and systemically [peripheral blood mononuclear cells (PBMC) and spleen cells] 24 hours after challenge, in two rat strains, Dark Agouti (DA) and Albino Oxford (AO), previously shown to differ in intensity of ear swelling response and draining lymph node cell activity in CHS.
Results: While production of IL-17 by ear skin cells after challenge was increased in both rat strains (vs. controls), production of IFN-γ and CD8+ cell number was increased only in DA. Activity relevant for innate immunity (CD11b+ skin cell number and NO production) was significantly increased only in DA. Production of proinflammatory cytokines TNF-α and IL-1β by these cells was unchanged in both strains. Similarly to ear skin cells, IL-17 production by PBMC was increased in both strains while IFN-γ, and TNF-α, IL-1β and NO, only in DA. In the spleen, however, only IFN-γ production was increased in both strains, while other parameters were variably affected in DA and AO.
Conclusion: In CHS reaction to dinitrochlorobenzene proinflammatory/effector activity detected locally in skin, coincides with PBMC activity (more pronounced in DA compared to AO rats). Systemic effect was compartment dependent, given differential activity of spleen cells in two strains.
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**P.B.12.11**

**A low expression of Tim3 is found in skin and peripheral blood from Patients with cutaneous non-immediate hypersensitivity reactions to drugs during the acute phase of the reaction**

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Introduction: Th1 lymphocytes are involved in cutaneous non-immediate hypersensitivity reactions to drugs. Th17 have shown effector activity in autoimmune diseases (rheumatoid arthritis, multiple sclerosis or psoriasis), but their participation in skin drug reactions is still unknown. The interaction of Tim-3 with its ligand Gal9, can control the homeostasis of Th1 and Th17 cells by inducing their apoptosis and the differentiation of Treg. We aimed to assess the levels of Tim-3 in patients with drug-induced-maculopapular exanthema (MPE) and -urticaria in both, the skin and peripheral blood, during the acute phase of the reaction.
Methods: We analysed patients with MPE (N=10), urticaria (N=6) and tolerant (N=10). Staining, with CXCR3, Tim-3 and IL17 antibodies were performed in skin biopsies and the presence of Th1, Th17 and T cells expressing Tim3 were assessed in peripheral blood by flow cytometry.
Results: We observed a decrease of cells expressing Tim3 in the skin of patients with MPE and urticaria ($p=0.000$ and $p=0.017$ respectively) and in $CD_4$ cells from peripheral blood ($p=0.002$ and $p=0.006$ respectively), mainly in $CD_4$ Th1 cells ($p=0.002$ and $p=0.006$ respectively), compared to control. No changes were observed in Th17 cells in these patients compared with controls, but the presence of Tim3 was increased in these cells, although differences were not significant.
Conclusion: The Th1 cells of patients with mild and moderate delayed hypersensitivity reactions to drugs present a decrease expression of Tim3 that could affect their homeostasis. However, Th17 cells seem not to be involved in the development of these pathologies.

**P.B.12.12**

**Hydrogen Sulphide ($H_2S$) modulates apoptosis process and cytokines levels in allergic lung inflammation**

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Introduction: This study aimed to investigate the effect of $H_2S$ in modulating apoptosis and cytokines levels in lungs from allergic mice.
Materials and Methods: BALB-C mice were sensitized and challenged with ovalbumin (OVA group). Some sensitized mice received treatment with $H_2S$ donor - Sodium hydrosulfide (NaHS; OVA/NaHS group). The euthanasia was performed 48 hours after cytokines levels allergen challenge. Bronchoalveolar lavage (BAL) was collected for eosinophils isolation by immunomagnetic method. The right lung was, then, removed, and homogenized to study the expression of caspase 3, caspase 9, Bax, Fas-L and the level of cytokines. The left lobe was fixed in formalin for histological analysis of lung parenchyma inflammatory infiltrate and the apoptosis in situ by TUNEL assay.
Conclusions: The histological results showed an inflammatory infiltrate around the bronchi and bronchioles in the OVA group, with a prevalence of eosinophils, which was prevented by NaHS-treatment. The treatment of allergic mice with NaHS also decreased the expression of caspase 3 and Fas-L, but not Bax and caspase 9. OVA-challenge or NaHS-treatment was unable to modulate the apoptosis of BAL eosinophils. However, the NaHS avoid the apoptosis increase in bronchial epithelial cells promoted by OVA challenge. Increased levels of IL-4, IL-5, IL-13, IL-25 and IFN-ɣ caused by airway challenge with OVA were inhibited by NaHS-treatment. Our results suggest that the decrease of IL-4, IL-5 and IL-25 levels by NaHS-treatment prevent eosinophil and neutrophil peribronchial infiltration. The NaHS also avoid apoptosis, and consequently, the bronchial epithelium destruction, which contributes to the pulmonary inflammation decrease.

**P.B.12.13**

**Role of mucosal immunity in allergic rhinitis phenotype formation**

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Introduction: Allergic rhinitis has become a global health issue. Lack of effective immunologic tolerancy to nonpathogenic allergens, caused by mucosal immunity violation is the main reason of allergic sensibilization development. Adequate evaluation of mucosal immunity among patients, suffering from allergic rhinitis, allows to evaluate clinical phenotype in a proper way and choose an effective treatment tactic.
Materials and Methods: Method was based on key specific cytokines content analysis, proinflammatory (α-TNF - tumor necrosis factor, IL-8, γ - INF) and antiphlogistic IL-4 in nasal lavage among 73 patients, suffering from perennial allergic rhinitis. Cytokine content was determined using immunoensymic method.
Results: As a result of local cytokine status research among patients, suffering from perennial allergic rhinitis split-level increase of IL- 4 in nasal secret alongside with lowering of γ - interferone was stated among all the patients, which describes a typical cytokine profile of allergic rhinitis. Among 33 patients (45%) rapid increase of IL-8 content in nasal secret was stated. Clinically this group of patients can be considered immunocompromised. Also among common symptoms - chronical ENT - pathology, frequent viral diseases, herpetic infection. Among 7 of these 33 patients (21%) significant increase of α-TNF was stated during research. Acquired results were accompanied by high titles of herpetic infection.
Conclusions: Revealed changes in mucosal immunity parameters among immunocompromised patients, suffering from allergic rhinitis witness special type and mechanism of inflammatory process and lead to "infection syndrome" development. Changes in local cytokines highlight special clinical phenotype of allergic rhinitis - virus-associated allergic rhinitis.

**P.B.12.14**

**the prognostic value of the neutrophil / lymphocyte ratio in patients with snake bites for clinical outcomes and complications**

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Objectives: We aimed to investigate the relationship between the neutrophil/lymphocyte ratio and clinical characteristics of acute allergic reaction patients diagnosed in an emergency clinic
Material and methods : The medical records of the patients with a diagnosis of acute allergic reaction that presented to dicle university medical faculty hospital emergency department between january1, 2014 and december 31, 2014 were included in the study. The age, gender, neutrophil/lymphocyte ratio, white blood count, eosinophil, mean platelet volume, glucose, and platelet count of all participants were recorded. The study included 100 allergy patients and 100 healthy controls. The demographic and the clinical characteristics of the groups were compared by statistical analysis.
Results: The mean age, gender, lymphocyte count, eosinophil count, platelet count, and mean platelet volume were similar in the two groups ($p>0.05$ for all). The mean neutrophil/lymphocyte ratio values of the allergy and the control group were 4.36 and 2.12, respectively ($p=0.008$). Moreover the serum glucose levels were significantly higher in allergy group compared to the control group ($p<0.001$).