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**АКТУАЛЬНІ ПИТАННЯ**  
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**Aim of investigation.** Review literature and create analysis of main genes, which disturbance and polymorphism can provoke formation of T1DM.

**Materials and methods.** Literature review include publications of last 5 years, referred in Medline, PubMed, Hindawi, NIH clinical trials etc. by key words “type 1 diabetes mellitus”, “gene polymorphism”, “risk prediction”.

**Results.** Based on genotyping, HLA-DRB1\*0301 is an independent genetic marker for T1DM susceptibility, however, HLA-DQB1\*0601 is an independent genetic marker against T1DM occurrence. Also in some ethnic groups HLA-DQA1\*0501 and HLA-DQB1\*0201 had been reported as a risk markers for T1DM.

Among other genes involved in disease outbreak protein tyrosine phosphatase nonreceptor type 22 (PTPN22) have been identified. PTPN22 C1858T polymorphism was observed more frequently in patients with T1DM compared to healthy individuals.

Also present association of the polymorphic marker -23HphI of the insulin gene (11p15) and cytotoxic T-lymphocyte-associated antigen-4 (CTLA-4) gene 49A/G polymorphism with manifestation of T1DM.

Angiotensinogen (AGT), angiotensin-converting enzyme (ACE) and angiotensin II type 1 receptor (AT1R) gene polymorphisms may influence on onset of nephropathy in patients with T1DM. AGT M235T polymorphism and insertion-deletion (I/D) ACE gene polymorphism (278-bp insertion (allele I) or deletion (allele D) variant in intron16) can cause risk for diabetic nephropathy. The AT1R polymorphism located at the position 1166 (A/C) was not associated with kidney injury.

**Conclusion.** Investigation of gene polymorphism may give additional informational for practitioners about various aspects of T1DM including disease onset, complete  $\beta$ -cell destruction and complication of the disease.

## EVALUATION OF RISK FACTORS OF BRONCHIAL ASTHMA IN CHILDREN IN TERNOPIL REGION

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**Introduction:** Bronchial asthma is a very common chronic respiratory disease that affects children of different age groups, it is thought to be a result of combination of genetic and environmental factors. Bronchial asthma has a long term consequences with physical, psychological and economical impact on society, parents and children, that's why too many studies were done to evaluate the environmental and non -environmental risk factors of bronchial asthma in children (Cindy T. McEvoy, Eliot R. spindle. 2017). Addressing the risk factors by pediatricians is necessary for prevention of the disease.

**Objective:** To evaluate the most common risk factors of bronchial asthma in children of Ternopil region.

**Study design:** A study of 18 pediatric patients, from regional pediatric hospital in Ternopil, from 1<sup>st</sup>– 15<sup>th</sup> of february, 2017. A questionnaire was answered by parents, which included many risk factors related to living environment, socioeconomic status, genetic anamnesis, maternal anamnesis (multiparty, gestosis, maternal smoking, mode of delivery), child's diet, child's gender, obesity, atopy, food allergies, drug allergies, flue vaccine, recurrent and chronic respiratory infections.

**Results:** 100% of children have atopy and chronic rhinosinusitis with recurrent upper and lower respiratory infections, 90% are of male gender ,90% living in village and 90% had flue vaccine, 80% have a family history of bronchial asthma, 60% have domestic pet, food allergies and 40% have drug allergies. 8 mothers were multiparae and 3 had gestosis during pregnancy. 2 children were premature, 2 had artificial feeding and 2 had exclusive breast feeding for >9 months. Other risk factors had 0%.

**Conclusion:** There is an evident association between bronchial asthma and chronic rhinisinusitis, recurrent upper and lower respiratory infection and atopy, as well as living in villages, having domestic pets, positive family history, male gender and flue vaccine. Early recognition of the above risk factors can aid in prevention of bronchial asthma in children.