GENE POLYMORPHISM: A USEFUL PROGNOSTIC TOOL IN PATIENTS WITH WORK-RELATED CHRONIC BRONCHITIS

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Objective: Study aimed to assess gene polymorphism for the prognosis of the work-related chronic bronchitis. **Methods:** 63 patients with work-related chronic bronchitis were enrolled to the study. Control group included 20 healthy comparable male volunteers without occupational hazards.Study participants were genotyped on tumor necrosis factor-α (TNF- α) gene - G(-308)A and G(-238)A , IL-8 gene (A(-252)T), proteintyrozinephosphatase 22 (PTP 22) gene(R620W), microsomal epoxidhydrolase gene (T337C и A416G). Spirometry, CAT questionnaire data were analyzed. **Results:** TNF- α gene polymorphism revealed that heterozygous type was most frequent. IL-8 gene heterozygotes A(-252)T carriers revealed higher IL-6 values vs the homozygotes AA and TT (Kruskal-Wallis test: H=5,34; p=0,07).Respiratory failure was the rare complication in proteintyrozinephosphatase 22 gene(R620W) heterozygotes (Chi-Square=6,12, p<0,05). TrpTrp carriers had higher heart variability rhythm index (HRV-index) vs theArgArg carriers (Kruskal-Wallis test: H=9,23, p<0,01). Heterozygotes had higher CAT points and higher minute ventilation vs the ArgArg carriers (Chi-Square = 10,28, p<0,005). PTP 22 heterozygotes revealed first work-related chronic bronchitis manifestation in younger age than those with the ArgArg type (Chi-Square=3,96, p<0,05). **Conclusions:** PTP22 gene polymorphism assessement could be a useful tool for the prognosis of the work-related chronic bronchitis onset and risk of respiratory failure development. PTP 22 heterozygotes are the risk group for the work-related chronic bronchitis development.