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**Title:** Inflammatory cytokine levels in serum and bronchoalveolar lavage fluid and gene polymorphism in young adult patients with bronchiectasis

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**Body:** Aim: Chronic infection and inflammation plays an important role in pathogenesis of bronchiectasis. In this study inflammatory cytokine levels, cytokine gene polymorphisms and genetic predisposition in patients with bronchiectasis was investigated. Methods: Forty cases with bronchiectasis (23.04±4.62 years) and 20 controls (23.04±2.62 years) were included to the study. Serum and bronchoalveolar lavage fluid (BALF) cytokine levels (IL-6, IL-8, IL-10, TNF- $\alpha$ ) were analyzed. Automatic sequence analysis was used to determine DNA IL-6, IL-8, IL-10, TNF- $\alpha$  cytokine genes polymorphism and frequencies. Results: Serum and BALF IL-8 levels were significantly higher while IL-10 levels were lower in the patient group (p<0.05). Cytokine gene polymorphisms of IL-8 to 251 A / T, IL-10 -592 A / C and IL-10 -819 T / C genotypes were found to be a higher risk for bronchiectasis. IL-8 -251 A / T genotypes had 4.19-fold increased risk (OR=4.19, p=0.021) while IL-10 -592 A / C genotype had 5.71-fold increased risk (OR= 5.71, p=0.017) and IL-10 -819 T / C genotype had 5.06-fold increased risk in patients with bronchiectasis (OR=5.06, p=0.048). Conclusion: Serum and BALF IL-8 levels were significantly higher while IL-10 levels were lower in patients with bronchiectasis. Significant association was observed in IL-8 and IL-10 gene polymorphism in the patient group. Risk of bronchiectasis were significantly higher in patients with high IL-8 and low IL-10 group.