
Abstract

Arthritis is a chronic disease which causes destruction and inflammation in joints. The worldwide prevalence of arthritis is about 0.5-1%. It mostly affected the female as compared to males. *Interleukin 16* is a proinflammatory cytokine gene which causes inflammation. The current study was designed to find the association of *Interleukin16* polymorphism with arthritis in Pakistani population. This study was also based on family clustering to study the inheritance of arthritis among families. Five families were selected from the area of Okara and Lahore Pakistan. The *IL16* gene along SNP rs4072111 and rs11556218 were determined through Polymerase chain reaction and Restriction fragment length polymorphism. The result suggested that the individual with higher BMI were more susceptible to arthritis. It mostly occur in older age people from the age 45 to <60 years. Female are at higher risk of arthritis as compared to male. The variants in *IL16* gene rs11556218 were not associated with arthritis in respective population. They occur with the wild type (G/G Genotype). Same results were found for the SNP rs4072111, no polymorphic change was found. Despite of small sample size it concluded that *IL16* gene along rs4072111 and rs11556218 were not associated with arthritis in Pakistani population. Large sample size should be required to find association for the selected SNPs of *IL16*.
