

Association between Glutamine 27 Polymorphism of B2 Adrenergic Receptor and Bronchial Asthma in Children

Khalid M. Salah¹, Hadeel M. Abd El-Rahman¹, Ahmed E. Fakhr², Mohamed I. Marghany¹

Departments of ¹Pediatric Pulmonology and ²Microbiology & Immunology, Faculty of Medicine, Zagazig University, Egypt.

Bronchial asthma is one of the most prevailed non-communicable diseases among Egyptian children. Genetic-environmental interaction can influence the nature of asthma and β 2 agonists are the most commonly prescribed bronchodilators for relieving asthma symptoms. This study was conducted to investigate the possible relationship between Gln27/Glu polymorphism of ADR β 2 and bronchial asthma susceptibility, severity and responsiveness to Albuterol in Egyptian children. A case control study of one hundred Egyptian children, where all contributors were genotyped using allele-specific Polymerase chain reaction (AS-PCR). Cases were selected and classified according to GINA guidelines and spirometrically assessed to evaluate pulmonary functions. There were no statistically significant variances between patients and control regarding Gln27/Glu polymorphism. Gln27 genotype has positive association with both asthma severity and drug response. In conclusion; B2 adrenergic receptor polymorphism at codon 27 is not associated with asthma susceptibility; however, it can be a determinant factor for asthma severity and bronchodilating response to B2 agonists in Egyptian asthmatic children.