HLA-B*57.01 Prospective Screening for Preventing the Hypersensivity Reaction to Abacavir: Experience from the Laboratory of Molecular Biology of the Infectious Diseases Unit of the University Hospital of Salerno

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Abacavir is a nucleoside reverse transcriptase inhibitor largely used as component of antiretroviral therapy in Human Immunodeficiency Virus (HIV)-infected patients. Some individuals (2-9%) who start an abacavir treatment develop an immunologic reaction named hypersensitivity reaction syndrome (HSR) that represents the principal cause of therapy discontinuation and could be life-threatening event. Some studies demonstrated a strong relationship between this adverse reaction and the class I of the major histocompatibility complex (MHC) allele, HLA-B*57.01 in several populations, including Caucasians. Nowadays, International HIV treatment guidelines recommend the HLA-B*57.01 genotyping before abacavir administration to reduce the incidence of HSR. From May 2010 to April 2012, both male and female HIV-infected patients were enrolled at the Laboratory of Molecular Biology of the Infectious Diseases of the University Hospital of Salerno and were admitted to prospective HLA-B*57.01 screening. Genetic analysis was carried out by two sequential steps through Real-Time PCR technique with Sybr-Green. Of 248 patients 215 were Italians from South of Italy and 33 were non-Italians coming from several non-EU members countries. All were genotyped and 6 of Italians’ group (2.8%) and only 1 of non-Italians’ group (3%) were identified as HLA-B*57.01 carriers. In this paper we presented our laboratory experience in the field of abacavir pharmacogenetic and confirmed the accuracy and speed of Real time PCR as a valid and cost-effective HLA-B*57.01 typing method.