The abacavir pharmacogenetic: screening of HLA-B*57.01 allele for preventing the hypersensitivity reaction

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Antiretroviral therapy is recommended for Human Immunodeficiency Virus (HIV)-infected individuals, and abacavir (ABC) is currently used as part of the combination therapy. Despite its high activity against HIV, ABC is associated with immunologic HyperSensitivity Reaction (ABC- HSR), that represents the principal cause of therapy discontinuation and could be a life-threatening event. Currently, the Food and Drug Administration (FDA) and the European Medicine Agency (EMA) suggest to adopt an antiretroviral agent alternative to ABC for patients bearing the HLA-B*57.01 allele before ABC administration to reduce the incidence of ABC-HSR.
Both male and female HIV-infected patients were enrolled at the Infectious Diseases OU of the University Hospital of Salerno and were admitted to prospective HLA-B*57.01 screening. Whole blood samples were collected in K2-EDTA treated tubes and genomic DNA was isolated by commercial kit. Genetic analysis was carried out by two sequential steps through Real-Time PCR technique with Sybr-Green. Of 339 patients, 316 were Italians from Southern of Italy and 23 were non-Italians coming from several non-EU members countries. All were genotyped and 3.2% of Italians and 3% of non-Italians were identified as HLA-B*57.01 carriers. In this study we present our laboratory experience in the field of abacavir pharmacogenetic, identifying the Real time PCR as a valid and cost-effective HLA-B*57.01 typing method.

REFERENCES

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