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Increased prevalence of the alpha-1 antitrypsin (A1AT) deficiency related S gene in patients infected with human immunodeficiency virus type 1

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Large variation exists in susceptibility to infection with Human Immunodeficiency Virus Type 1 (HIV), and disease progression. These observations demonstrate a role for antiretroviral host factors. Several reports describe A-1 Antitrypsin (A1AT), the most abundant circulating serine protease inhibitor, as a potent suppressor of HIV infection and replication. We identified the normal (M) and most common deficiency associated (S and Z) isoforms of the *A1AT* gene in patients infected with HIV from four multicenter cohorts. The level of disease progression in the patients was characterized and the patients were grouped into as elite controllers (EC), longterm non-progressors (LTNP), or progressors (Prog). No significant difference in the distribution of A1AT alleles was observed in the EC, LTNP, or Prog groups. However, significantly increased prevalence of the A1AT deficiency associated S allele was observed in HIV infected patients compared to the prevalence of S A1AT in the general population. These results suggest that deficiency in A1AT may be a risk factor for acquisition of HIV infection, but physiological A1AT concentrations do not affect disease progression after the infection occurred.

Biography

Thalita Ferreira has graduated in Pharmacy at the University of Brasília. During graduation, she integrated the research group led by Enrique Argañaraz in the Molecular Virology Laboratory. Currently, she is a Doctoral student at the University of Campinas integrating the research group in Drug Discovery led by Lúcio Holanda Freitas Júnior.

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