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HIV-1 SUBTYPE C DISSEMINATION IN SOUTHERN BRAZIL

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INTRODUCTION: The subtype C of HIV-1 is currently the predominant subtype in the world. Whereas it is responsible for entire epidemic foci in sub-Saharan Africa and in overpopulated nations such as India and China, recent studies have found increasing prevalence of subtype C in southern Brazil and other Latin American countries. In this study, we evaluated the molecular and epidemiological profile of HIV-1-infected patients from the University Hospital of Rio Grande, located in the southernmost state of Brazil.

METHODS: A cross-sectional study was conducted from September to December 2002. Plasma viral RNA of 85 patients was extracted and protease and reverse transcriptase genes were PCR-amplified and sequenced. Sequences were subtyped and examined to antiretroviral resistance mutations. Laboratory data and past history of antiretroviral treatment were also collected.

RESULTS: Most viruses were either subtype B (42%) or C (45%). No risk behavior, sexual orientation or laboratory parameter was associated with any specific subtype but subtype C tended to be more frequently found in women ($p=0.06$). The prevalence of subtype C has increased over the HIV/AIDS epidemic accounting for almost 60% of cases diagnosed in 2002. Intra-subtype genetic distances were smaller in subtype C than in B, suggesting a more recent introduction of the former in the epidemic. Of patients under treatment, 60% had at least one antiretroviral drug resistance mutation, but no mutation was specifically associated with any HIV-1 subtype. Only one resistance mutation each was found in drug-naïve patients with subtype B and C.

CONCLUSIONS: Despite the fact that subtype C appeared in southern Brazil more recently than subtype B, it is now the predominant strain in Rio Grande. Epidemic spread of subtype C could be taking place in Brazil, and possibly in South America, a phenomenon similar to that seen in other countries where this subtype is now totally dominant.

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