CNS Compartmentalization and Sensitivity to Neutralizing Antibodies

Karl Stefic1,3, Antoine Chaillon1, Mélanie Bouvin-Pley3, Alain Moreau2, Martine Braibant1, Guillaume Gras2, Frédéric Bastides2, Louis Bernard2 and Francis Barin1,3
1Virology Laboratory, University Hospital Center of Tours, 2Infectious Diseases Department, University Hospital Center of Tours, 3INSERM U966, François-Rabelais University, Tours, France; *University of California, San Diego, La Jolla, CA, USA

1- Study population and SGA results

- Subjects were chronically infected with a history of HIV-1 infection and had at least 4 HIV-1 RNA detection negative in the last year. Table 1 shows the distribution of the study population.
- Subjects were stratified by CD4 count, gender, prophylactic use, and treatment status.

2- Compartmentalization and Evolution analysis

- Using viral sequences from paired CSF and plasma, the compartmentalization and evolutionary analysis were performed. Table 2 shows the compartmentalization and evolutionary analysis results.
- The results showed that the compartmentalization and evolutionary analysis were consistent with the previous findings.

3- Key molecular characteristics

- The compartmentalized viral populations showed a higher sensitivity to antibody neutralization than the non-compartmentalized populations. Table 3 shows the key molecular characteristics.
- The results showed that the compartmentalization and evolutionary analysis were consistent with the previous findings.

CONCLUSIONS

- Our data show that selective pressure by autologous NAB is not the main driver of HIV evolution in the CSF.
- Given that each of the conserved neutralizing epitopes is linked to a specific functional property for cell entry, our data suggest that some functional properties of the envelope are responsible for compartmentalization.
- Considering the possible migration from CSF to blood, CSF could be a reservoir of bNAbs resistant viruses, an observation that should be considered for future studies of immunotherapy.

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