

## HIV escape in the CSF, which consequences?

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### Background

During antiretroviral therapy, HIV RNA can be detected in Cerebrospinal Fluid (CSF) when it is undetectable in plasma, a condition termed “CSF viral escape”. The aim of this study is to characterize HIV-infected patients with CSF ‘escape’.

### Methods

Retrospective case series in an Algerian hospital specialized in HIV monitoring. This study included all patients responding to HIV escape definition:

detectable CSF HIV RNA in the setting of treatment-suppressed plasma levels or CSF RNA >1 log higher than plasma RNA.

The comparison between patients with and without HIV CSF escape used the chi carré statistical test with significative p value if < 0.05 .

### Results

The comparison between the group with CSF escape and the group without CSF escape is resumed in the table below (Tab 1)

Table 1: Comparison between the group with and without HIV CSF escape .

CSF Escape	Yes	No	
<b>Population size</b>	<b>11 patients</b>	<b>47 patients</b>	
<b>Mean age (Years)</b>	<b>43</b>	<b>41</b>	
<b>Sex ratio</b>	<b>2.5</b>	<b>1.6</b>	
<b>Regular Antiretroviral Therapy</b>	<b>3/11</b>	<b>5/47</b>	
<b>CRP (&gt;6mg/l)</b>	<b>7/11</b>	<b>27/47</b>	P= 0.44
<b>Positive CSF cellularity</b>	<b>4/11</b>	<b>3/47</b>	P= 0.03
<b>High CSF proteins level</b>	<b>9/11</b>	<b>16/47</b>	P= 0.08
<b>Neurological symptoms</b>	<b>10/11</b>	<b>35/47</b>	P= 0.04

### Discussion et Conclusion

In our study, patients experiencing HIV CSF Escape were more likely to have neurological disorders with positive lumbar puncture. (p=0.04; 0.03 respectively).

Physicians should be aware of this manifestation of HIV disease. It's also important to determine whether the virus in the CSF compartment possesses resistance to the ARV treatment.

CSF HIV analysis can be an important diagnostic tool for the purpose of measuring HIV RNA concentration and identifying resistance.

These cases add to the growing literature on CSF/plasma discordance that underscores the need for further investigation into the mechanism and consequences of HIV replication and persistence in the CNS.