

Poster presentation

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## What about primary pulmonary hypertension in HIV infection in the era of combination antiretroviral therapy?

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### Purpose of the study

To study if the risk of primary pulmonary hypertension (PPH) has changed in the last 10 years, we estimated the incidence of PPH in HIV infection in France and we investigated its risk factors.

### Methods

The French Hospital Database on HIV (FHDH-ANRS CO4) which started in 1992 in 62 hospitals in France and enrolled HIV-seropositive subjects followed in hospitals offered this opportunity. We used a Poisson regression model to identify factors associated with the rate of PPH among patients enrolled in the FHDH since 1996, the year of the advent of combination antiretroviral therapy (cART), including protease inhibitors (PIs). Multivariable analysis included variables with  $p < 0.20$  in univariable analyses, that is gender, age, transmission group, and updated CD4 cell counts, AIDS diagnosis and antiretroviral treatment.

### Summary of results

During the period 1996 to June 2006, among the 73,291 subjects included in the study, PPH was diagnosed in 203 patients during a median follow-up of 64 months. Women, who account for 31% of the HIV-infected population, have 1.7 times the risk of men to present a PPH during their follow-up (95% CI = 1.2–2.2) and PPH is more often diagnosed among IVDUs who present a 3.7 higher risk than other transmission group (95% CI = 2.8–

4.9). The sex standardized incidence of PPH in the HIV-infected population (81.9 per 100,000 PY in 1996–1998, 138.8 in 1999–2001, 108.7 in 2002–2004 and 68.3 in 2005–2006) is higher than in the general population (0.16 per 100,000 PY) in Europe. No impact of antiretroviral treatment on PPH occurrence was found. AIDS diagnosis and low CD4 cell count during the follow-up were found as independent predictors of PPH occurrence with increasing incidence from 37.8 per 100,000 PY for patients with CD4 cell count  $\geq 500/\text{mm}^3$  to 225.6 for patients with CD4 cell count  $< 50/\text{mm}^3$ .

### Conclusion

Our results are consistent with the assumption that the HIV is a risk factor of PPH occurrence, and that PPH is related to a high degree of immunosuppression. Nevertheless, even among patients with more than 500 CD4/ $\text{mm}^3$ , the risk of PPH is higher than in the general population. Although PPH may be under-reported in the database, there is no reason to believe that the rate of under-notification varied over time or with risk factors of PPH, therefore, the increased risk we observed could be underestimated in our study, while we are confident in the risk factors evidenced. Active surveillance for PPH should be considered for patients with low CD4 cell count and clinical symptoms such as cough.