Epidemiological and clinical usefulness of HIV/AIDS Cohort Studies: Towards a global collaboration

Geneviève Chêne


Nowadays, combination Antiretroviral Therapy (cART) has led to shifting patterns of morbidities and mortality with important consequences for clinical practice: 1) incidence of AIDS events has dramatically decreased and median time to AIDS may reach 20 to 30 years, 2) complications of HIV/AIDS are now responsible for only a minority of causes of death, 3) emerging causes of death and morbidity, i.e. cancers, cardiocerebrovascular diseases and bacterial infections, occur with especially high frequency or earlier than expected, as compared with the general population. In addition, available antiretroviral therapy is better tolerated, but only limited information are available on the long-term consequences of treatment, although patients still experience frequent perturbing symptoms that can highly influence adherence to antiretrovirals and quality of life, as well as contribute to the emergence and spread of drug-resistant viruses.

Cohort studies have been instrumental in providing important knowledge on these aspects of HIV infection as they allow the longitudinal surveillance and recording of events along time and are therefore a central model of study to describe the complete picture of disease history, whether under treatment or not. During the last 15 years, European HIV researchers have been particularly active to create new as well as expand existing cohorts in a particularly suitable environment where HIV care is publicly funded and concentrated in a limited number of highly specialised clinical settings. In this context, results of a new cohort, like the Spanish cohort of naïve HIV-infected patients (CoRIS), are to be especially acknowledged. By including a large number of patients during a recent period, and building a biobank, CoRIS may be considered as an important platform for the study of HIV infection currently and in the future.

As in the CoRIS Study, successful HIV observational cohorts like the MACS, or the ANRS CO4 FHDH cohort in Europe, the MACS have identified the presence of multiple known risk factors of cardio-cerebrovascular disease among HIV-infected patients, especially in older individuals. In addition, this collaboration has shown that the risk of coronary disease was associated only partly to antiretroviral treatment and mostly explained by traditional risk factors. Therefore, the benefit of cART still outweighs the increased risk of
cardiovascular disease associated with antiretrovirals, and practitioners should pay specific attention to traditional risk factors (tobacco consumption, dyslipidemia, diabetes) in the case management of these patients.

AIRT-CC, a collaboration of 13 cohort studies from Europe and North America, showed that CD4+ cell count at initiation of cART was a dominant prognostic factor, in addition to plasma HIV RNA. In the following week, the current CD4+ cell count and plasma HIV load, but not values at baseline, were strongly associated with subsequent disease progression in addition to age, injection drug use and AIDS stages, underlining the importance of starting with highly potent antiretrovirals and promoting high adherence to this treatment.

The results raise the question whether a long-term exposure to antiretrovirals will result in sustained improvements given the potential for therapy failure following difficulties with adherence, the emergence of resistance, and the development of adverse drug reactions. Continual monitoring of changes along time and assessment of their potential impact on long-term outcome should be pursued and even strengthened.

Given these challenges, a new collaboration called COHERE: Collaboration of Observational HIV Epidemiological Research (Europe) has started in 2006 with the mission to conduct epidemiological research on the prognosis and outcome of HIV-infected people from across Europe including pregnant mothers, children, and adults. This new collaboration will focus on scientific questions requiring a large sample size of patients which the contributing cohorts cannot answer individually and which do not overlap with existing collaborations between participating COHERE cohorts.

The first steps of a global collaboration are therefore accomplished, based on trust and transparency, and hopefully all partners will now feel comfortable to move forward with a unified governance structure planning for the long-term development of observational HIV epidemiological research in Europe. In addition to the identification of areas of common scientific interest, such a unified governance structure should help improve standardisation of data collection and coding which are essential for collaboration to yield powerful and robust results, and should also promote training among all partners.

Such a global collaboration can be successful only if mechanisms are put in place that respect the huge differences in the resources available in different countries and regions. These results raise the question whether a long-term exposure to antiretrovirals will result in sustained improvements given the potential for therapy failure following difficulties with adherence, the emergence of resistance, and the development of adverse drug reactions. Continual monitoring of changes along time and assessment of their potential impact on long-term outcome should be pursued and even strengthened.

These challenges, a new collaboration called COHERE: Collaboration of Observational HIV Epidemiological Research (Europe) has started in 2006 with the mission to conduct epidemiological research on the prognosis and outcome of HIV-infected people from across Europe including pregnant mothers, children, and adults. This new collaboration will focus on scientific questions requiring a large sample size of patients which the contributing cohorts cannot answer individually and which do not overlap with existing collaborations between participating COHERE cohorts.

The first steps of a global collaboration are therefore accomplished, based on trust and transparency, and hopefully all partners will now feel comfortable to move forward with a unified governance structure planning for the long-term development of observational HIV epidemiological research in Europe. In addition to the identification of areas of common scientific interest, such a unified governance structure should help improve standardisation of data collection and coding which are essential for collaboration to yield powerful and robust results, and should also promote training among all partners.

Such a global collaboration can be successful only if mechanisms are put in place that respect the huge differences in the resources available in different countries and regions. These results raise the question whether a long-term exposure to antiretrovirals will result in sustained improvements given the potential for therapy failure following difficulties with adherence, the emergence of resistance, and the development of adverse drug reactions. Continual monitoring of changes along time and assessment of their potential impact on long-term outcome should be pursued and even strengthened.

Given these challenges, a new collaboration called COHERE: Collaboration of Observational HIV Epidemiological Research (Europe) has started in 2006 with the mission to conduct epidemiological research on the prognosis and outcome of HIV-infected people from across Europe including pregnant mothers, children, and adults. This new collaboration will focus on scientific questions requiring a large sample size of patients which the contributing cohorts cannot answer individually and which do not overlap with existing collaborations between participating COHERE cohorts.

The first steps of a global collaboration are therefore accomplished, based on trust and transparency, and hopefully all partners will now feel comfortable to move forward with a unified governance structure planning for the long-term development of observational HIV epidemiological research in Europe. In addition to the identification of areas of common scientific interest, such a unified governance structure should help improve standardisation of data collection and coding which are essential for collaboration to yield powerful and robust results, and should also promote training among all partners.

Such a global collaboration can be successful only if mechanisms are put in place that respect the huge differences in the resources available in different countries and regions. These results raise the question whether a long-term exposure to antiretrovirals will result in sustained improvements given the potential for therapy failure following difficulties with adherence, the emergence of resistance, and the development of adverse drug reactions. Continual monitoring of changes along time and assessment of their potential impact on long-term outcome should be pursued and even strengthened.

References


17. These results raise the question whether a long-term exposure to antiretrovirals will result in sustained improvements given the potential for therapy failure following difficulties with adherence, the emergence of resistance, and the development of adverse drug reactions. Continual monitoring of changes along time and assessment of their potential impact on long-term outcome should be pursued and even strengthened.

18. Given these challenges, a new collaboration called COHERE: Collaboration of Observational HIV Epidemiological Research (Europe) has started in 2006 with the mission to conduct epidemiological research on the prognosis and outcome of HIV-infected people from across Europe including pregnant mothers, children, and adults. This new collaboration will focus on scientific questions requiring a large sample size of patients which the contributing cohorts cannot answer individually and which do not overlap with existing collaborations between participating COHERE cohorts.

The first steps of a global collaboration are therefore accomplished, based on trust and transparency, and hopefully all partners will now feel comfortable to move forward with a unified governance structure planning for the long-term development of observational HIV epidemiological research in Europe. In addition to the identification of areas of common scientific interest, such a unified governance structure should help improve standardisation of data collection and coding which are essential for collaboration to yield powerful and robust results, and should also promote training among all partners.

Such a global collaboration can be successful only if mechanisms are put in place that respect the huge amount of work to collect data of high quality accomplished by participating cohorts, prevent from competing with research projects or funding and share the different tasks required. No doubt that European HIV researchers as a group will be innovative enough to challenge this evolution, as they have shown their significant ability to maintain individual cohorts and even create new ones, like the CoRIS cohort.