Stroke in HIV-infected patients in the combination antiretroviral therapy era

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Background

3) Persons infected with HIV are living long enough to face significant morbidity from chronic conditions such as cardiovascular disease 1.

2) Chronic hepatitis C has become an important comorbidity in HIV/HCV-coinfected individuals who are an important clinical subgroup that may differ from HIV-infected patients 1.

1) Interactions between HIV, HCV, and combination antiretroviral therapy (cART) are also associated with several metabolic disorders that may increase the risk of cardiovascular disease 2.

Background

• Persons infected with HIV are living long enough to face significant morbidity from chronic conditions such as cardiovascular disease 1.

• Chronic hepatitis C has become an important comorbidity in HIV/HCV-coinfected individuals who are an important clinical subgroup that may differ from HIV-infected patients 1.

• Interactions between HIV, HCV, and combination antiretroviral therapy (cART) are also associated with several metabolic disorders that may increase the risk of cardiovascular disease 2.

• HIV and HCV infection have both been associated with increased risk of stroke 1-4.

Methods (I)

Design

• Retrospective nationwide study

Outcome

• Spanish Minimum Basic Data Set (MBDS) 1

• Persons aged ≥15 years discharged from Spanish hospitals with a diagnosis of stroke

ICD-9-CM codes

• HIV infection (I02 or V01)

• HCV infection (070.44, 070.54, 070.7x, or V02.62)

• Ischemic stroke (433-437)

• Hemorrhagic stroke (ICD-9 430-432)

• Other and ill-defined cerebrovascular disease (ICD-9 437)

HIV and HCV co-infection

• HIV-Mono = patients mono-infected with HIV

• HIV-Co = patients co-infected with HIV/HCV

Epidemiological characteristics of patients with a hospital admission and diagnosis of stroke from 1997 to 2011

Study period


Incidence of stroke

Incidence of stroke (per 10,000 person-years) in Spain (1997-2011) stratified by calendar periods

Methods (II)

Outcomes

• Incidence of stroke (only the first episode)

• In-hospital mortality of patients with stroke

Reference populations

• No. of people living with HIV in Spain National Centre of Epidemiology, ISC, Madrid, Spain

• No. of HIV/HCV-coinfected individuals in Spain National Centre of Epidemiology, ISC, Ga2EDA prevalence

• Persons living with HIV and stroke in Spain National Centre of Epidemiology, ISC, Madrid, Spain

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Rates per 10,000 pt-yr

• Numerator: No. of events within each period

• Denominator: patients-years at risk within each period

Statistics

• Pearson distribution (comparison of incidence rates)

• Logistic regression analysis (OR of death)

Software

• R statistical package version 3.1.1

Characteristics of patients

Epidemiological and clinical characteristics of patients with a hospital admission and diagnosis of stroke from 1997 to 2011

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References


3. GESIDA 5707 study. 19th CROI (2012); Paper #746.


5. Spanish Minimum Basic Data Set (MBDS) 1

Conclusions

1. We found that the incidence and mortality of stroke decreased among HIV-infected individuals but increased steadily among HIV/HCV-coinfected individuals during the cART era. This suggests that stroke is now a health problem in the latter group.

2. Further studies should be performed to corroborate this finding, to investigate the potential contributing role of HCV (direct effect vs. lifestyle factors), and to assess the possible impact of new therapies against HCV for reducing the risk of stroke.