



Stroke demographics and risk factor profile in HIV infected individuals in Florida

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Abstract

Information concerning demographics and risk factors at play for hemorrhagic stroke (HS) in people living with HIV (PLWH) is scant. We analyzed the health data of 13,986 HIV-infected persons living in Florida and extracted pertinent information about demographics, social and clinical factors relating to ischemic stroke (IS) and HS. Descriptive statistics were generated including odds ratios (OR) and confidence intervals (CI). Our findings showed HS stroke rate in PLWH is **almost twice** the rate in the general population and that demographic and risk factor profiles differ between HS and IS.

Introduction

The risk of IS is known to be higher in PLWH than uninfected controls¹. However, information about the demographics and risk factors for HS in PLWH is scant. Specifically, very little is known about the differences in the stroke risk factors between HS and IS in PLWH. The goal of this study was to determine the demographics and risk factor differences between HS and IS in PLWH.

Methods

We retrospectively analyzed the demographic and clinical data of PLWH in OneFlorida (1FL) Clinical Research Consortium from October 2015 to December 2018. 1FL is a large statewide clinical research network and database which contains health information of over 15 million patients, 1,240 clinical practices, and 22 hospitals. We compared HS and IS based on documented ICD 9 and 10 diagnostic codes and extracted information about sociodemographic data, traditional stroke risk factors, Charlson comorbidity scores, habits, HIV factors, diagnostic modalities and medications. Statistical significance was determined using 2-sample T-test for continuous variables and adjusted Pearson chi square for categorical variables. OR and 95% CI between groups were compared.

Results

Overall, from 1FL sample of 13,986 people living with HIV, 574 subjects had strokes during the study period. The rate of any stroke was **18.2/1000 person-years (PYRS)**. The rate of IS was 10.8/1000 PYRS while the rate of HS was **3.7/1000 PYRS**, corresponding to **25.4%** HS of all strokes in the study. Table 1 summarizes the pertinent demographic and risk factors for HS and IS in PLWH in the study.

Table 1: Summary of pertinent demographic and risk factors for hemorrhagic and ischemic strokes in people living with HIV from One Florida database

	HS	IS	p- value	OR
Age(yrs.) mean(CI)	51.3 (48.5- 54.1)	57.3 (55.9-58.6)	<0.001	—
Gender (Male) % (CI)	65 (55.2-73.2)	62 (57.1-67.6)	NS	—
Race (Blacks) % (CI)	57.7 (48.2-66.8)	65.7 (60.4-70.7)	NS	—
BMI(kg/m2) mean (CI)	25.5 (24.2-26.7)	26.6 (25.8-27.4)	NS	—
ARV usage (%) (CI)	19 (12.5-27.5)	29 (24.3 -34.2)	NS	—
HTN (%) (CI)	62.1 (52.5-70.8)	82.7 (78.2-86.5)	< 0.001	0.34 (0.21-0.55)
CAD (%) (CI)	20.7 (13.9-29.4)	35.8 (30.7-41.2)	0.0038	0.47 (0.28-0.77)
HLP (%) (CI)	30.2 (22.2-39.5)	61.6 (56.2-66.7)	< 0.001	0.27 (0.17-0.42)

Legend: HS (Hemorrhagic stroke); IS (Ischemic stroke); BMI (Body mass index); ARV (Anti- retroviral drug); HTN (Hypertension); CAD (Coronary artery disease); HLP (Hyperlipidemia); CI (95% Confidence interval); OR (Odds ratio); NS – No difference between groups.

Conclusions

- In this large Floridian health database;
- The **rate of HS** in PLWH is **almost twice** the US national rate for HS in the general population².
 - Younger age group is associated with HS than IS in PLWH³.
 - Hypertension, hyperlipidemia and CAD are more likely to contribute to IS than HS in PLWH.

Future Direction

Further research is needed to better understand the interplay between known and yet unidentified risk factors and how these factors may contribute to HS and IS in PLWH.

Acknowledgements

- Data Analysis unit, One Florida Consortium, University of Florida assisted with study data extraction.
- University of Miami CFAR provided financial support for the data analysis.

References

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