

INTRODUCTION

Background: Selective serotonin reuptake inhibitors (SSRIs), the most commonly prescribed antidepressants (AD), may increase the risk of intracerebral hemorrhage (ICH) because of impaired platelet function.

Goal: We studied the proportion of stroke cases with ICH among AD users and non-users, and the rate of SSRI prescription at discharge in the Florida Stroke Registry (FSR).

HYPOTHESIS

Hypothesis: the proportion of stroke cases presenting with ICH will be higher for AD users than non-AD users.

METHODS

Setting: FSR is a voluntary stroke registry of Florida hospitals participating in the AHA's Get With the Guidelines-Stroke quality care improvement program.

Patients: 127,915 FSR stroke cases in 2010-2019 with information on AD use.

AD users: n=17,009, median age 74, IQR=19

Non-AD users: n=110,906, median age 72, IQR=21

Analysis: Multivariable logistic regression to evaluate the proportion of all stroke cases that were ICH among AD and non-AD users at admission and rates of prescribed SSRIs at discharge.

Covariates: age, race, history of hypertension, diabetes, oral anticoagulant use, antiplatelets, statins.

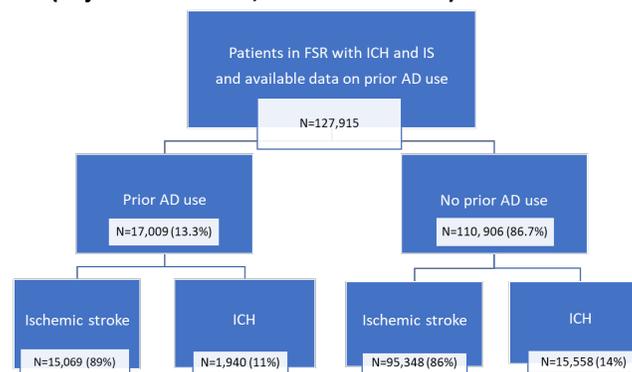
FUNDING

Funding provided by the Florida Department of Health, Funding # COHAN A1

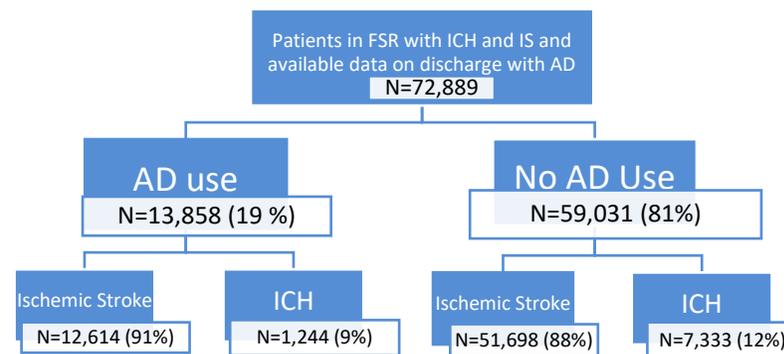
RESULTS

Prior AD users were more likely to be female, non-Hispanic White, have hypertension, diabetes, and use oral anticoagulants, antiplatelets, and statins.

AD users were just as likely to present with spontaneous ICH as compared to non-AD users (adjusted OR=0.92, 95% CI 0.85-1.01).



3.4% of ICH patients and 9% of those in whom AD information was available were discharged home on an AD (74% SSRI).



DISCUSSION

Hypothesized mechanism: By interfering with serotonin, which plays a role in blood clotting, SSRIs may increase the risk of bleeding.

Conclusion: These results do not support the hypothesis that SSRIs increase the risk of ICH specifically.

Limitations:

- All study participants were stroke cases, so we were unable to estimate the true risk of ICH among AD users and non-users.
- Details regarding the length, dosage and type of antidepressants were not available.

SUMMARY

- In this large population-based study, we did not find an association between prior AD use and an increased proportion of ICH among stroke cases.
- AD (mostly SSRIs) are commonly prescribed to patients with ICH in routine clinical practice.
- Randomized controlled trials are warranted to assess the safety of SSRIs in treatment of depression in patients with stroke.

REFERENCES

- Mojtabai R. Increase in antidepressant medication in the US adult population between 1990 and 2003. *Psychother Psychosom.* 2008;77 (2):83-92.
- Prof Francois Chollet et al. Fluoxetine for motor recovery after acute ischemic stroke (FLAME). *The Lancet, Neurology* January, 2011.
- Javors MA, Houston JP, Tekell JL, Brannan SK, Frazer A. Reduction of platelet serotonin content in depressed patients treated with either paroxetine or desipramine. *Int J Neuropsychopharmacol.* 2000;3:229-235.
- Christel Renoux et al. Association of Selective Serotonin Reuptake Inhibitors With Risk of Spontaneous Intracranial Hemorrhage. December 5, 2016. doi:10.1001/jamaneurol.2016.4529.



INTRODUCTION

Background: Selective serotonin reuptake inhibitors (SSRIs), the most commonly prescribed antidepressants (AD)^{1,2} may increase the risk of intracerebral hemorrhage (ICH) because of impaired platelet function³.

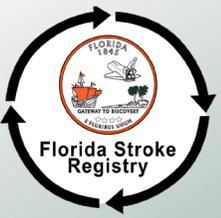
Goal: We studied the proportion of stroke cases with ICH among AD users and non-users, and the rate of SSRI prescription at discharge in the Florida Stroke Registry (FSR).

HYPOTHESIS

Hypothesis: The proportion of stroke cases presenting with ICH will be higher for AD users than non-AD users³.



METHODS



Setting: FSR is a voluntary stroke registry of Florida hospitals participating in the AHA's Get With the Guidelines-Stroke quality care improvement program.

Patients: 127,915 FSR stroke cases in 2010-2019 with information on AD use.

AD users: n=17,009, median age 74, IQR=19

Non-AD users: n=110,906, median age 72, IQR=21

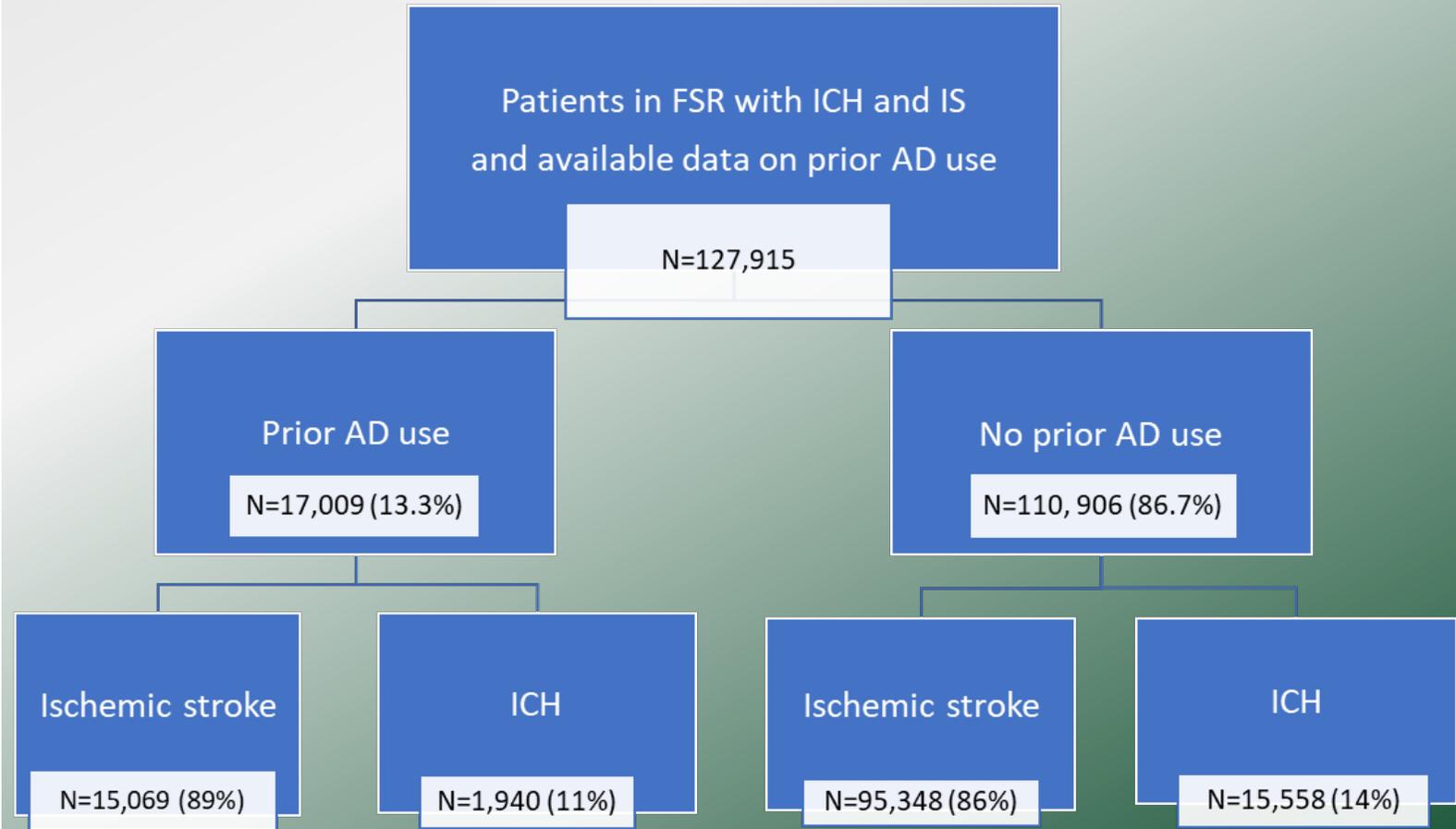
Analysis: Multivariable logistic regression to evaluate the proportion of all stroke cases that were ICH among AD and non-AD users at admission and rates of prescribed SSRIs at discharge. Covariates: age, race, history of hypertension, diabetes, oral anticoagulant use, antiplatelets, statins.



RESULTS

Prior AD users were more likely to be female, non-Hispanic White, have hypertension, diabetes, and use oral anticoagulants, antiplatelets, and statins.

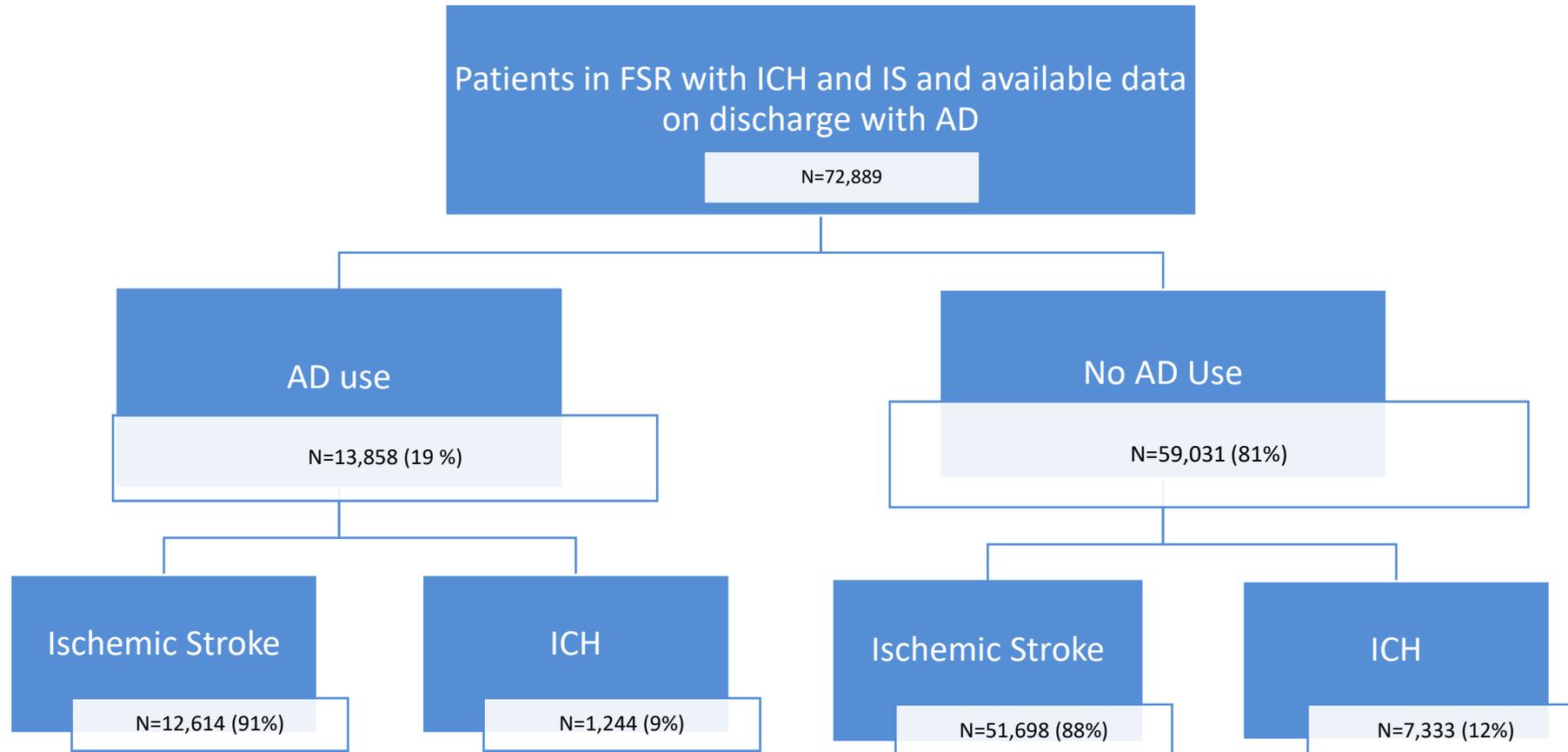
AD users were just as likely to present with spontaneous ICH as compared to non-AD users (adjusted OR=0.92, 95% CI 0.85-1.01).





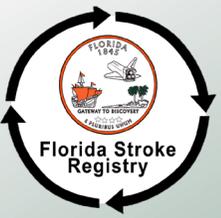
RESULTS

3.4% of ICH patients and 9% of those in whom AD information was available were discharged home on an AD (74% SSRI).





DISCUSSION



Hypothesized mechanism: By interfering with serotonin, which plays a role in blood clotting, SSRIs may increase the risk of bleeding.

Conclusion: These results do not support the hypothesis that SSRIs increase the risk of ICH specifically.

Limitations:

- All study participants were stroke cases, so we were unable to estimate the true risk of ICH among AD users and non-users.
- Details regarding the length, dosage and type of antidepressants were not available.



SUMMARY



- In this large population-based study, we did not find an association between prior AD use and an increased proportion of ICH among stroke cases.
- AD (mostly SSRIs) are commonly prescribed to patients with ICH in routine clinical practice.
- Randomized controlled trials are warranted to assess the safety of SSRIs in treatment of depression in patients with stroke



REFERENCES

- ¹Mojtabai R. Increase in antidepressant medication in the US adult population between 1990 and 2003. *Psychother Psychosom*. 2008;77 (2):83-92.
- ²Prof Francois Chollet et al. Fluoxetine for motor recovery after acute ischemic stroke (FLAME). *The Lancet, Neurology* January, 2011.
- ³Javors MA, Houston JP, Tekell JL, Brannan SK, Frazer A. Reduction of platelet serotonin content in depressed patients treated with either paroxetine or desipramine. *Int J Neuropsychopharmacol*. 2000;3:229 –235.
- Christel Renoux et al. Association of Selective Serotonin Reuptake Inhibitors With Risk of Spontaneous Intracranial Hemorrhage. December 5, 2016. doi:10.1001/jamaneurol.2016.4529.

AUTHOR DISCLOSURES

Dr. Rundek is funded by the Florida Department of Health for work on the Florida Stroke Registry (COHAN A1) and by the grants from National Institutes of Health (R01 MD012467, R01 NS029993, R01 NS040807, 1U24 NS107267), and the National Center for Advancing Translational Sciences (UL1 TR002736 and KL2 TR002737).

Dr. Romano receives salary support to the Department of Neurology at the University of Miami from the Florida Department of Health for work on the Florida Stroke Registry (COHAN A1); he is PI of the Transition of Care Stroke Disparity Study (NIH/NIMH 1R01MD012467), the Mechanisms of Early Recurrence in Intracranial Atherosclerotic Disease study (1R01NS084288), the Florida Regional Coordinating Center for StrokeNet (1U24NS107267) and receives salary support from Genentech for his role as PI of the Mild and Rapidly Improving Stroke Study (MaRISS).

Dr. Sacco is Director and corresponding PI of the Florida Department of Health for work on the Florida Stroke Registry (COHAN A1); he is corresponding PI of the Transition of Care Stroke Disparity Study (NIH/NIMH 1R01MD012467).

The remaining authors have no disclosures to report.

FUNDING

Funding provided by the Florida Department of Health, Funding # COHAN A1