

Selective Serotonin Reuptake Inhibitor Use and Risk of Retinal Vein Occlusion: A Retrospective Cohort Study

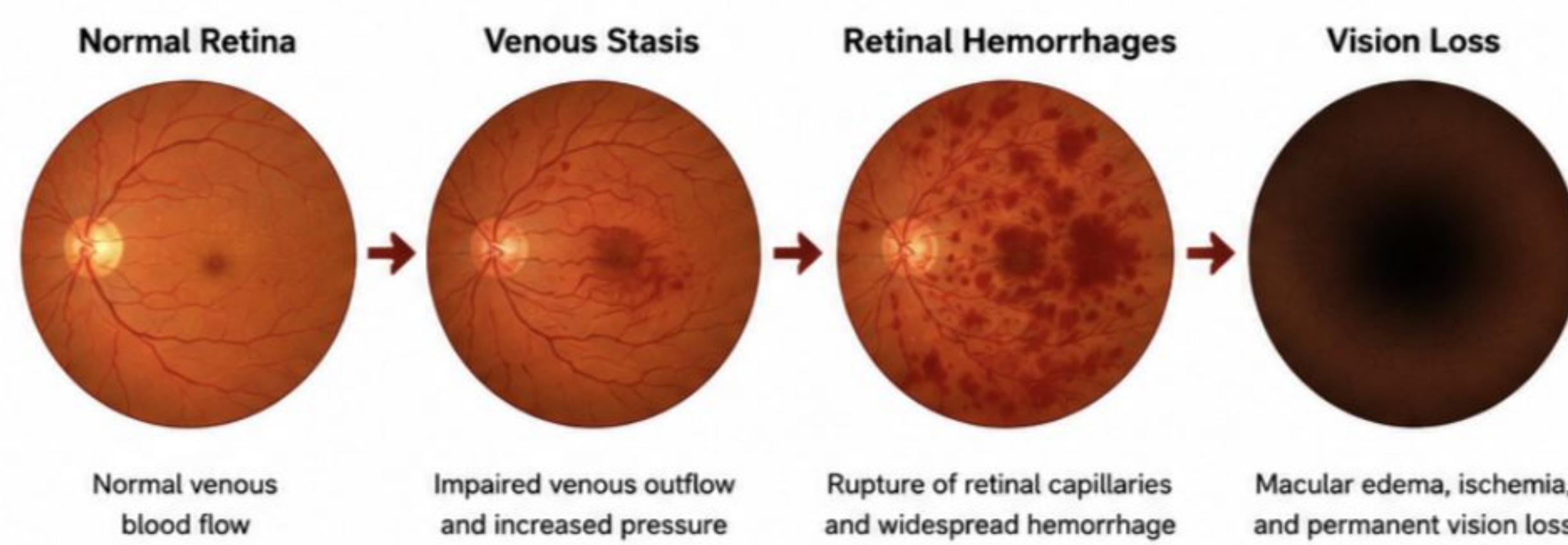
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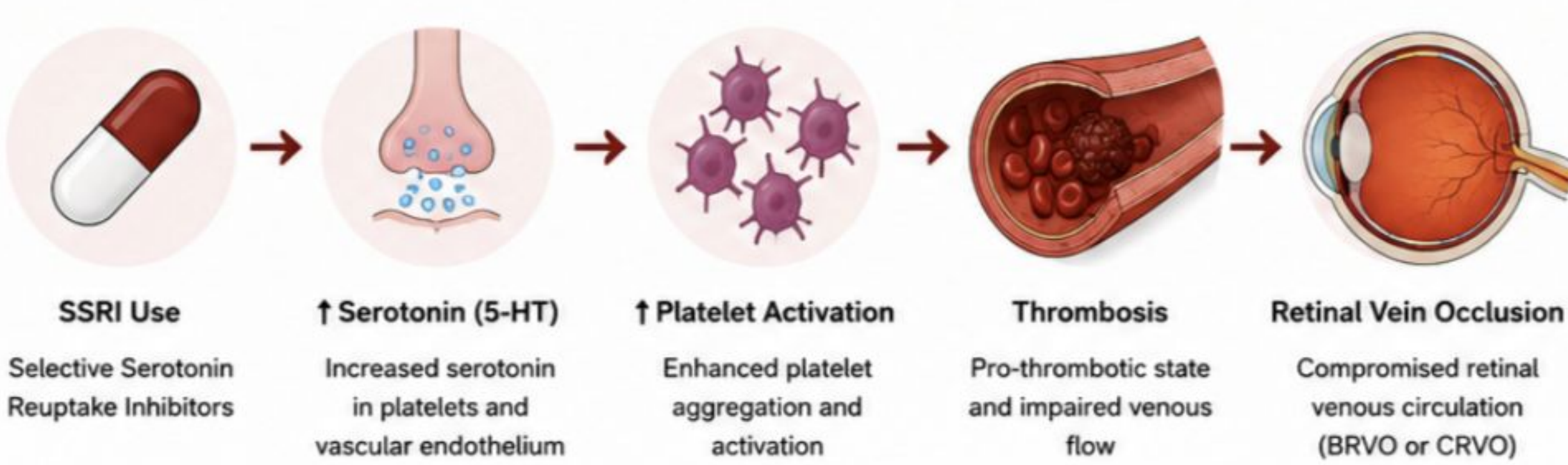
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Background

PATHOPHYSIOLOGY OF RETINAL VEIN OCCLUSION



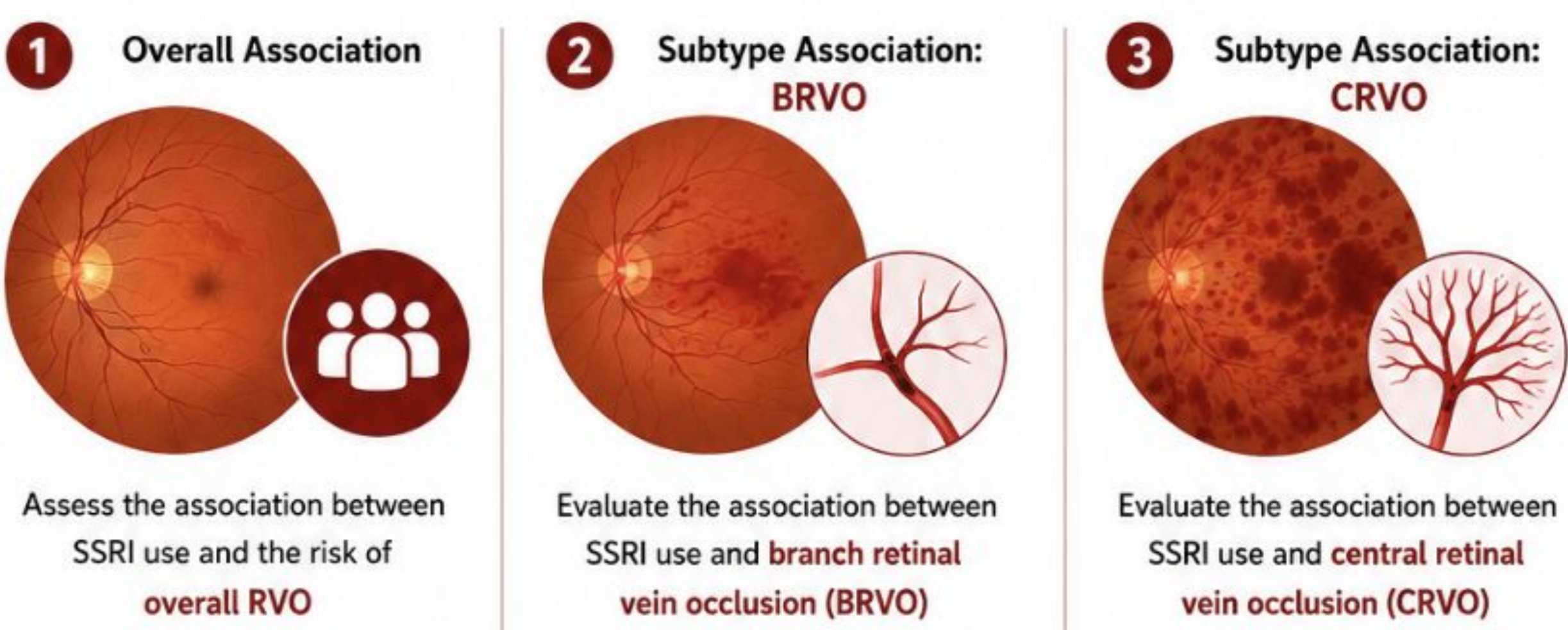
POTENTIAL MECHANISTIC LINK BETWEEN SSRIs AND RVO



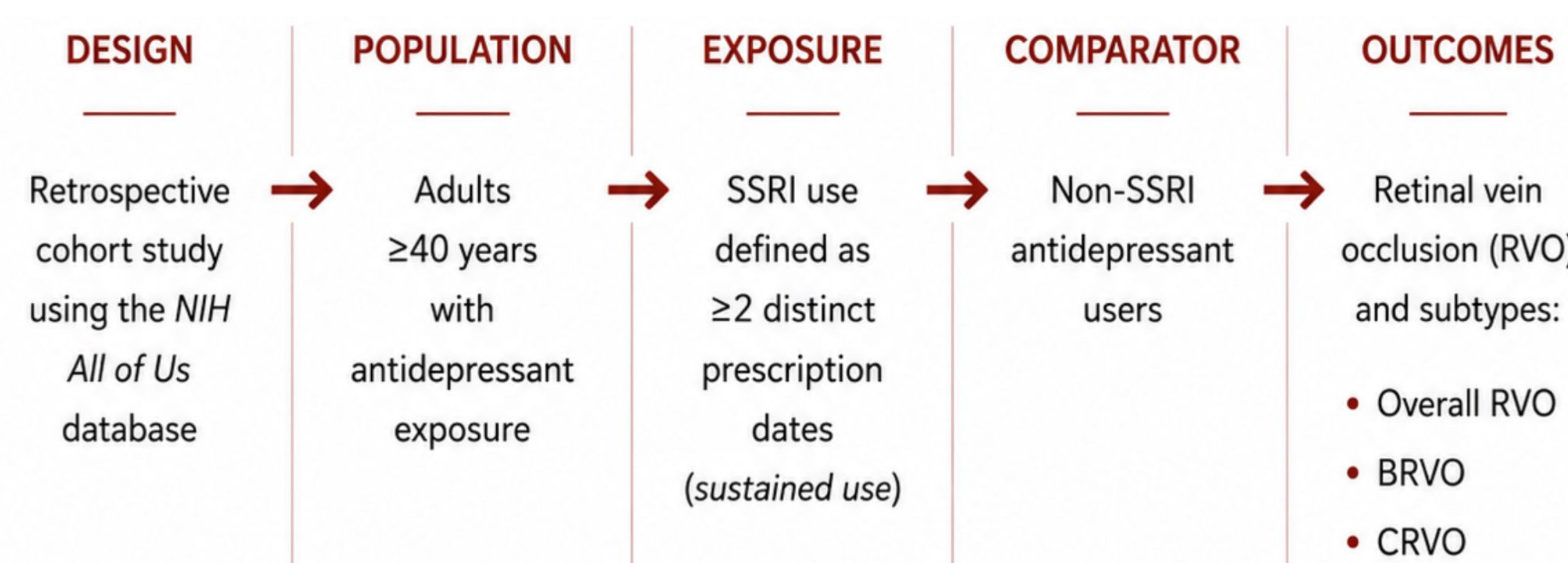
Objectives



To evaluate whether selective serotonin reuptake inhibitor (SSRI) use is associated with retinal vein occlusion (RVO) and its subtypes.



Methods



Results

38,917
participants included

RVO EVENTS



216
total RVO events (0.55%)

- 58 BRVO (26.9%)
- 103 CRVO (47.7%)
- 55 unspecified/other RVO (25.5%)

RVO INCIDENCE

SSRI users
160 / 28,560
(0.56%)



Comparator users
56 / 10,357
(0.53%)



**OVERALL RVO:
NO INDEPENDENT ASSOCIATION
WITH SSRI USE**

OR 1.12

95% CI 0.83 – 1.53
p = 0.46



No significant
association
observed.

INDEPENDENT RISK FACTORS FOR OVERALL RVO



Increasing age
OR 1.07
per year
p < 0.001



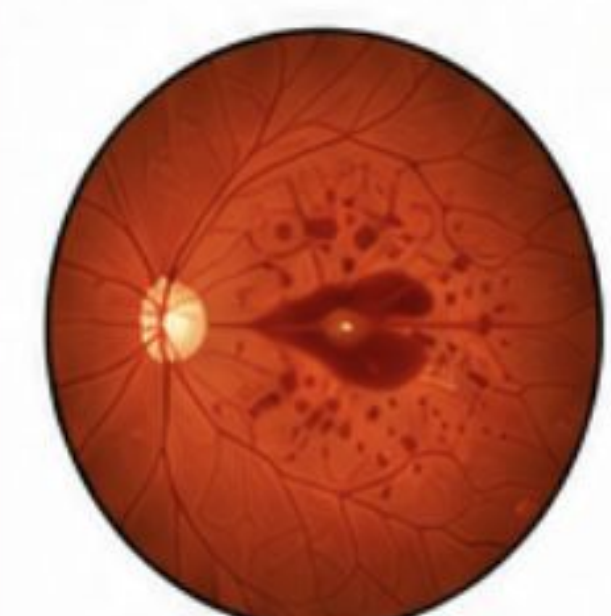
Smoking history
OR 1.62
p = 0.003



Hyperlipidemia
OR 1.72
p = 0.005

SUBTYPE ANALYSES

BRVO (Branch Retinal Vein Occlusion)



SSRI use:
No association

OR 1.11
95% CI 0.62 – 1.97
p = 0.73

=
No increased
odds

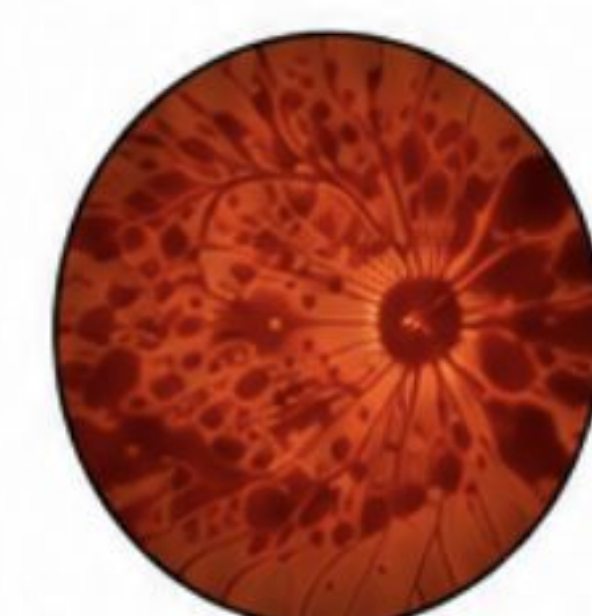
Sectoral hemorrhages
along a branch vein

Independent associated factor:



Hypertension
(↑ risk of BRVO)

CRVO (Central Retinal Vein Occlusion)



SSRI use:
**Exploratory
association**

OR 1.67
95% CI 1.02 – 2.72
p = 0.041

↑
Higher odds
(exploratory
signal)

Diffuse retinal hemorrhages
("blood and thunder")

Independent associated factors:



Smoking history
(↑ risk of CRVO)



Hyperlipidemia
(↑ risk of CRVO)



Glaucoma
(↑ risk of CRVO)



BRVO AND CRVO DEMONSTRATED DISTINCT VASCULAR ASSOCIATION PROFILES.
Findings suggest differing mechanisms across RVO subtypes.



CONCLUSIONS

- SSRI use was not independently associated with overall RVO in this active-comparator cohort.
- Exploratory subtype analyses suggested a possible association with CRVO, but not BRVO, indicating differing associations across RVO subtypes.

Conclusion



SSRI use was **not independently** associated with overall RVO.



Exploratory subtype analyses suggested a **possible association** with CRVO, but not BRVO.



Findings support differing vascular association profiles across RVO subtypes.

Future Directions

- Evaluate **time-to-event relationships** using Cox proportional hazards models
- Perform **new-user SSRI** analyses to reduce survival and comparator bias
- Investigate **medication dose-response** and duration effects
- Incorporate additional **systemic vascular** and thrombotic covariates
- Validate findings in **external ophthalmology** and retinal datasets
- Further explore potential **CRVO-specific** vascular mechanisms

Acknowledgements

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References

