



# "PREVALENCE OF HYPERTENSION AND DIABETES MELLITUS IN PATIENTS WITH CENTRAL RETINAL VEIN OCCLUSION IN THE THRACE REGION"

**Atahan ANDAÇ Mehmet Kaan PEHLİVAN**

**Supervisor: Ayça KÜPELİ ÇINAR**  
**5th International Balkan Students' Congress-2025**



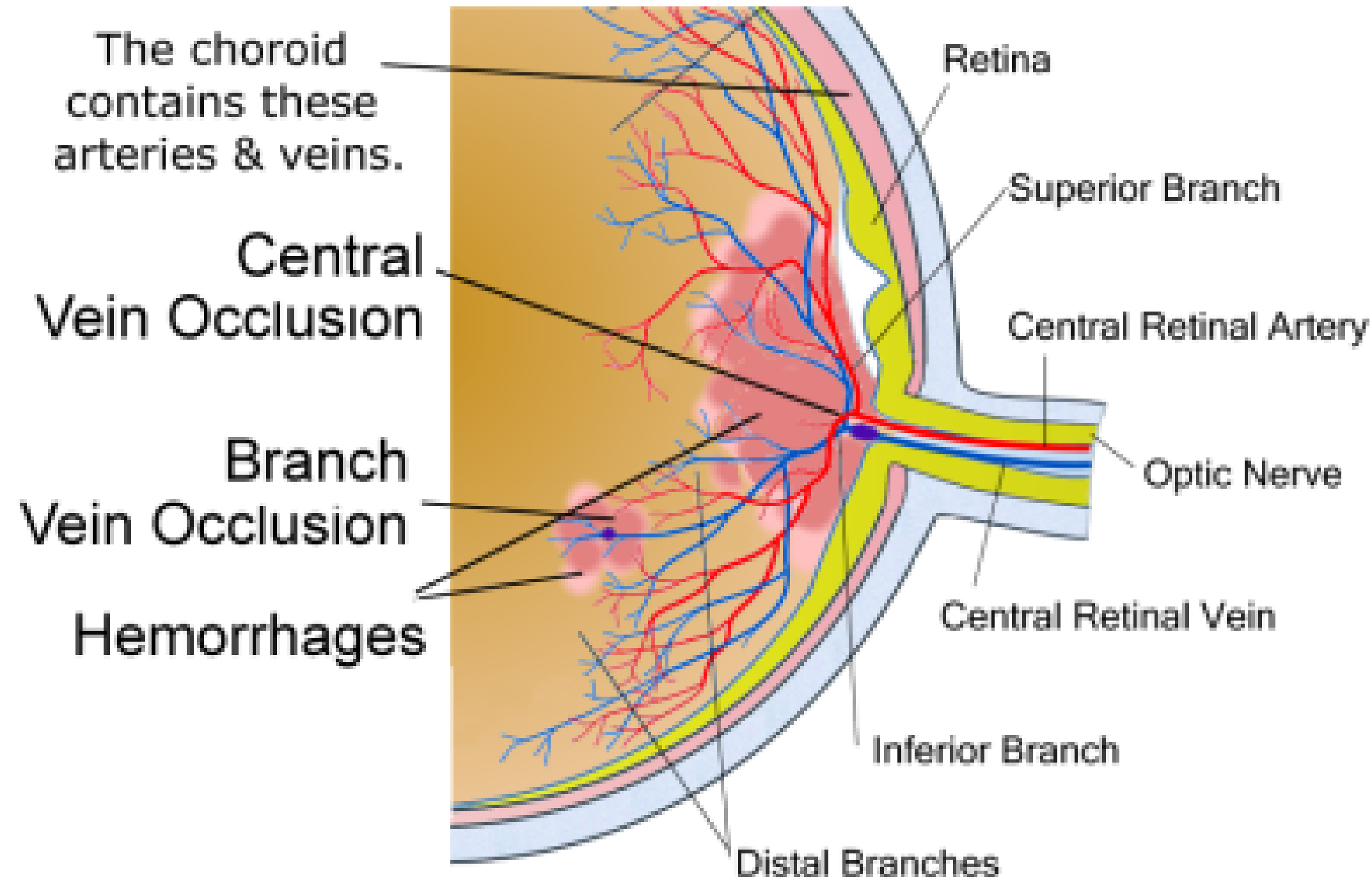
# > CONTENTS

- **1 Introduction**
- **2 Contents**
- **3 What is Central Retinal Vein Occlusion?**
- **6 Research Aim**
- **7 Methodology**
- **8 Findings**
- **12 Discussion**
- **18 Conclusion**
- **19 References**
- **20 Final**

# WHAT IS CENTRAL RETINAL VEIN OCCLUSION (CRVO)?

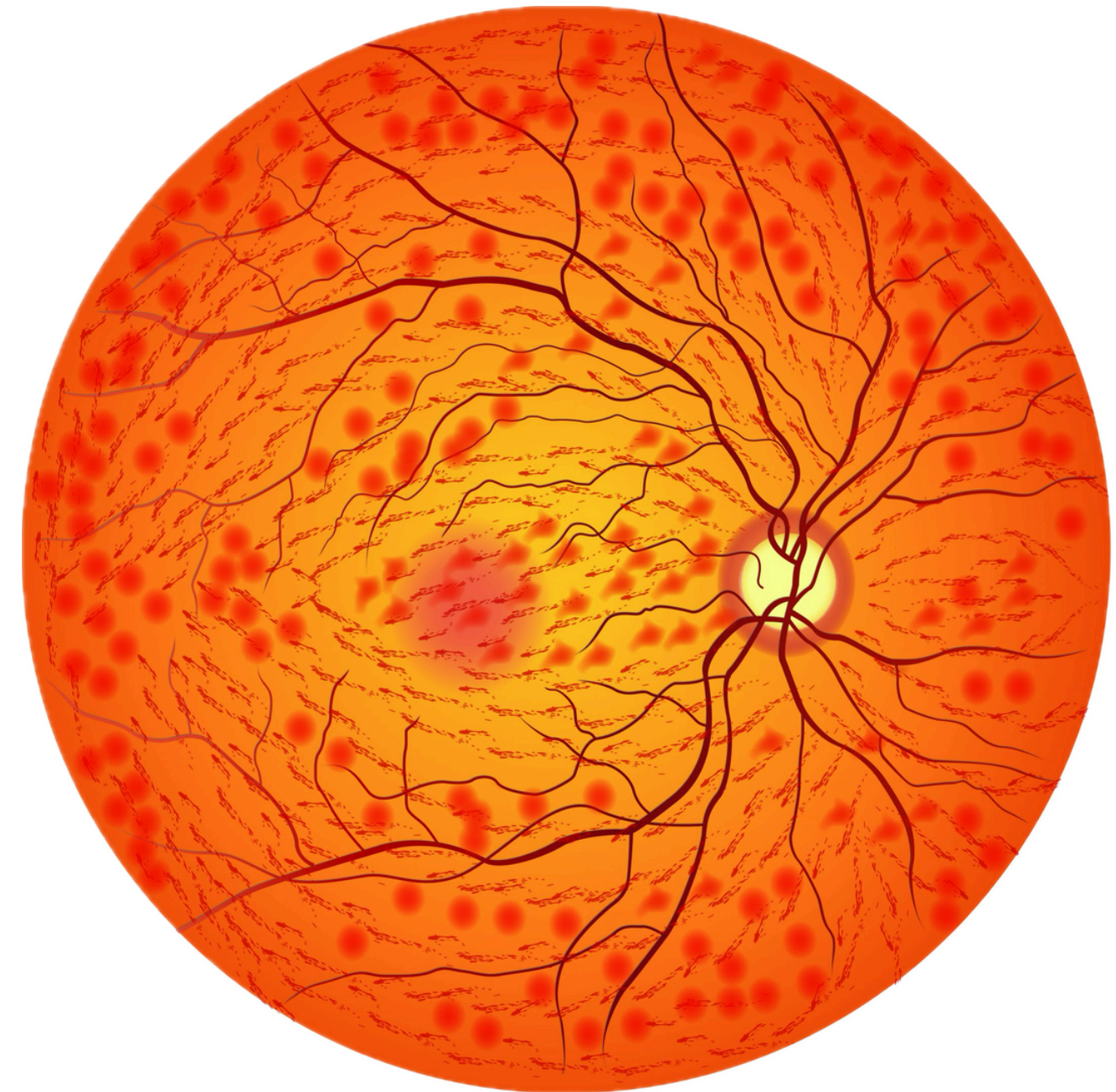
The **central retinal vein (vena centralis retinae)** is the main vein responsible for draining venous blood from the retina.

**CRVO is a retinal vascular occlusion** that occurs due to blockage of this vein at the level of the lamina cribrosa.



# WHAT IS ➤ CENTRAL RETINAL VEIN OCCLUSION (CRVO)?

- It typically presents **as sudden, painless vision loss in one eye.**
- The most common systemic risk factors are **advanced age, hypertension (HT), diabetes mellitus (DM), and hyperlipidemia.**

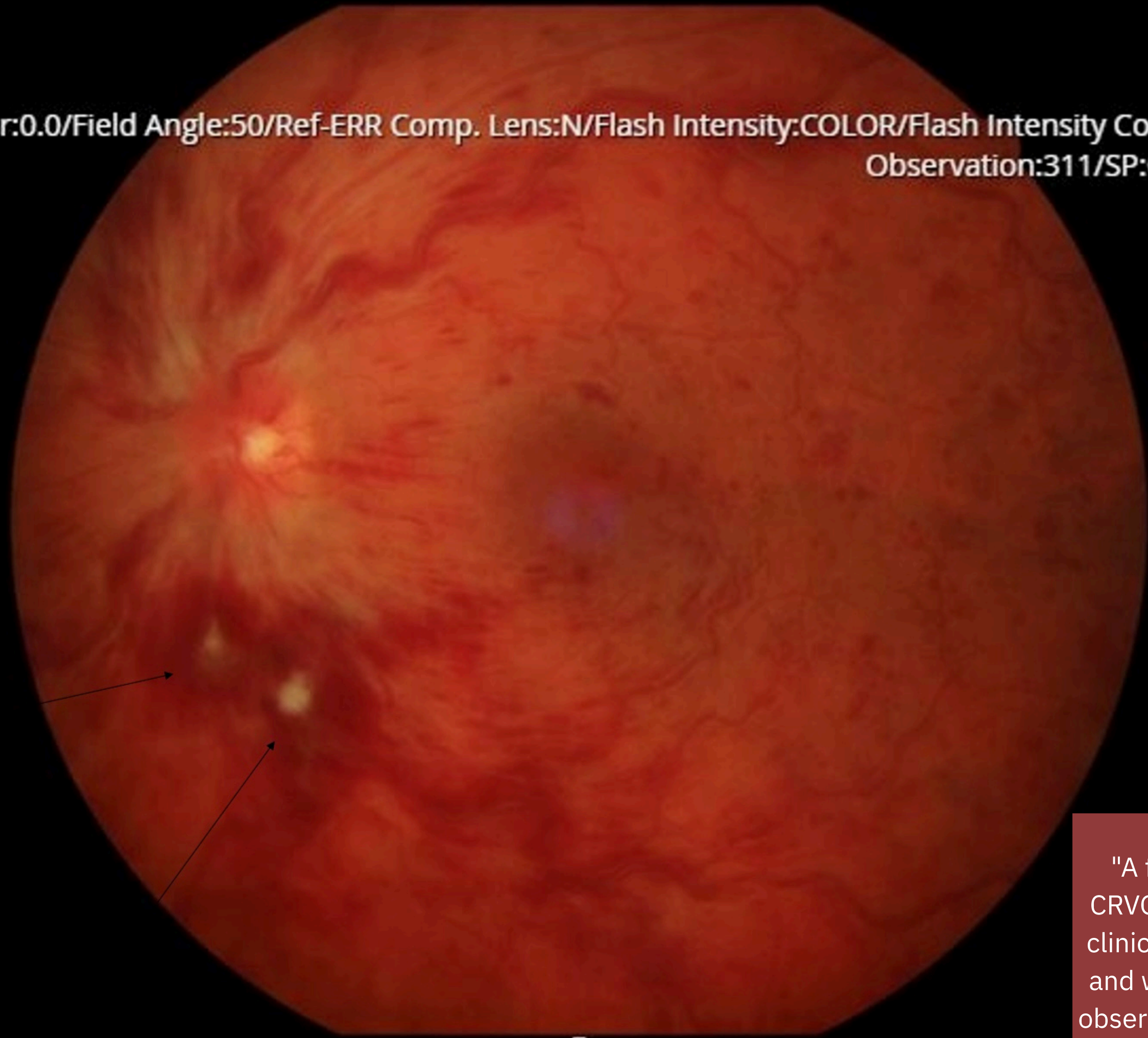




C: 127.5, W: 255.0

Administrator

Timer:0.0/Field Angle:50/Ref-ERR Comp. Lens:N/Flash Intensity:COLOR/Flash Intensity Compensation:-0,3/Flash Observation:311/SP:OUT/Image Comment:

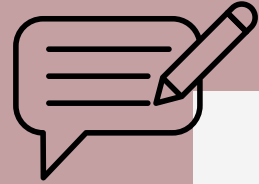


"A fundoscopic image of a CRVO case obtained from the clinic. Extensive hemorrhages and widespread exudates are observed in all four quadrants."

## **> RESEARCH AIM**

The aim of this study is **to report the demographic characteristics** of CRVO patients in the Thrace region and **to investigate the prevalence of hypertension and diabetes mellitus in these patients.**

# > **METHODOLOGY**

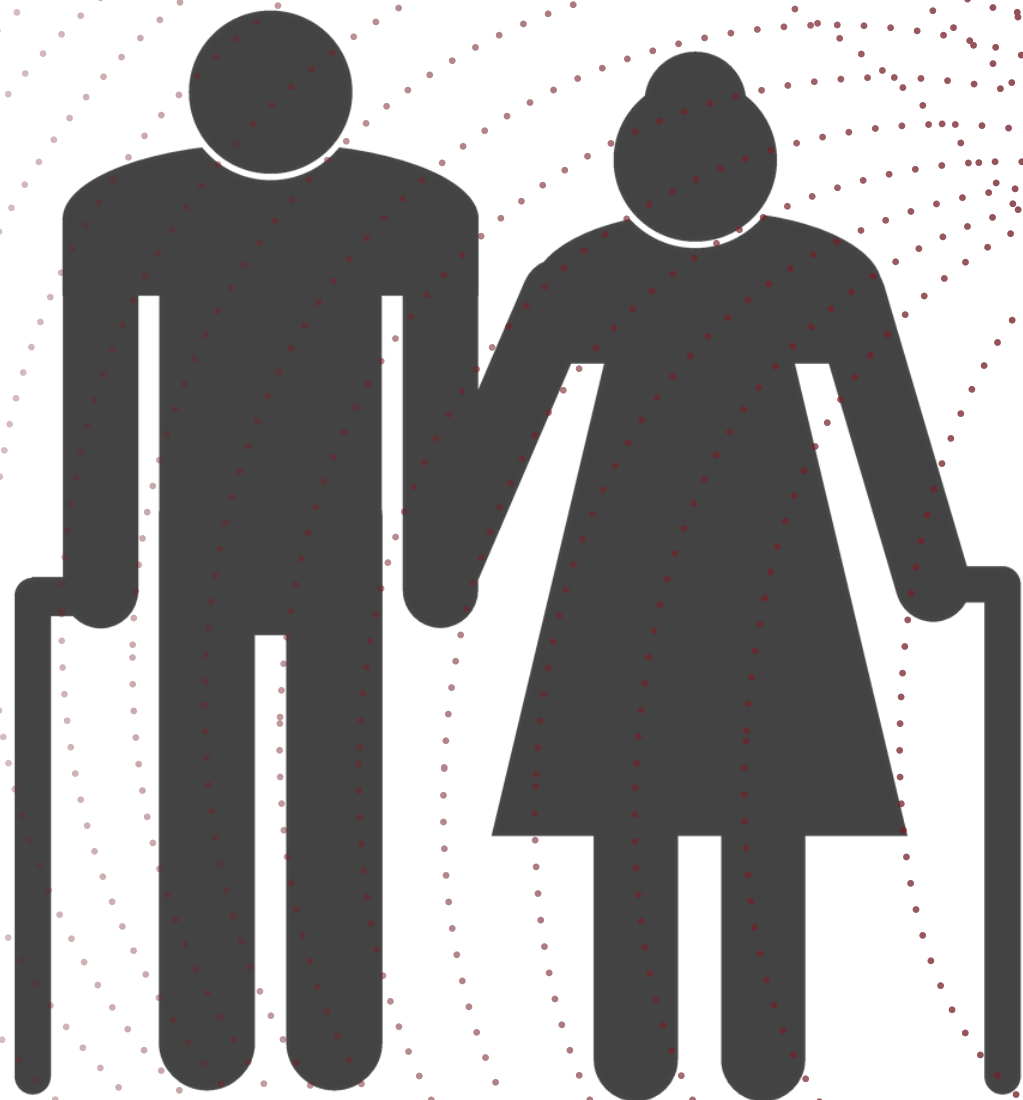


- Date: September 2023 – May 2024
- Location: Trakya University Faculty of Medicine, Department of Ophthalmology
- Study Type: Retrospective analysis
- Number of Patients: 36 patients diagnosed with CRVO (36 eyes)
- Data Examined: **Age, gender, affected eye, presence of HT and DM**
- Exclusion Criteria:
  - Pathologies preventing fundus imaging
  - History of prior ocular surgery or trauma
- Statistical Analysis: Conducted using SPSS 26



# FINDINGS

**Mean Age: 68.31±11.75**

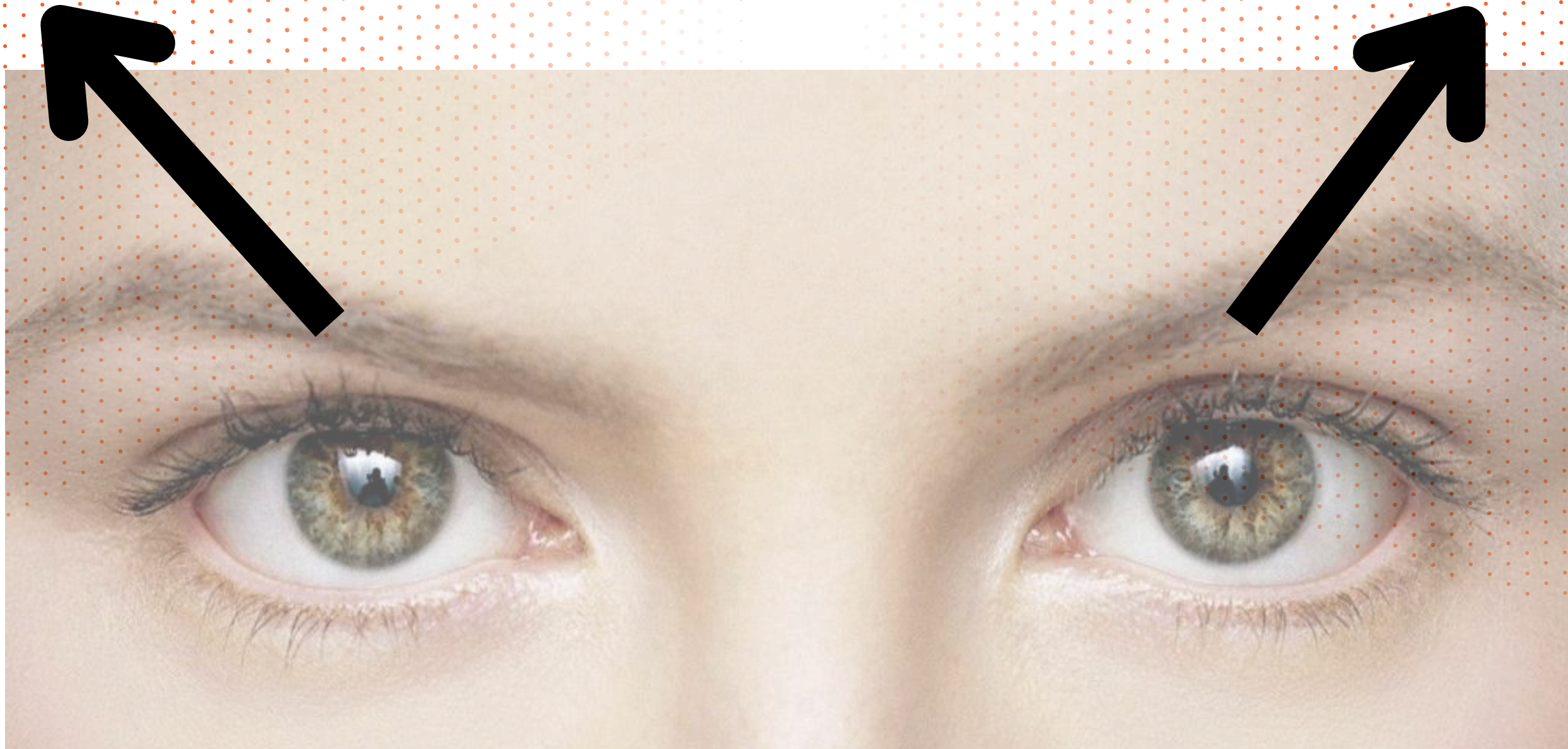




# FINDINGS

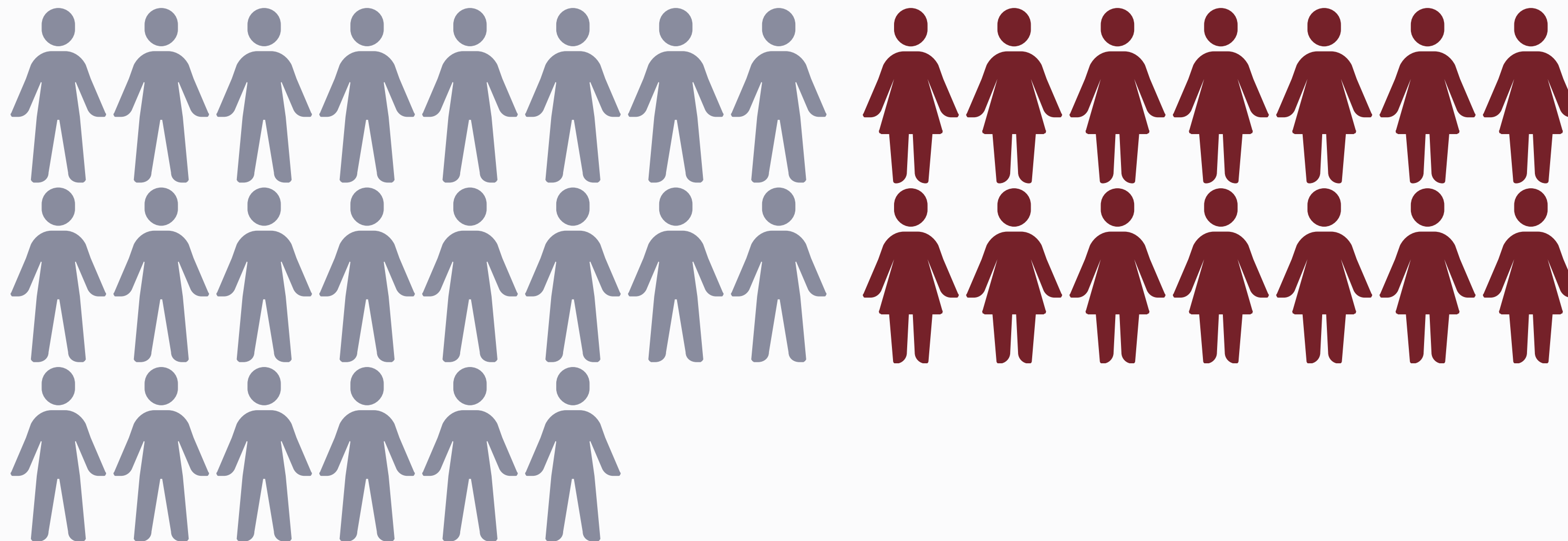
**Right Eye: 18 (%50)**

**Left Eye: 18 (%50)**





# FINDINGS

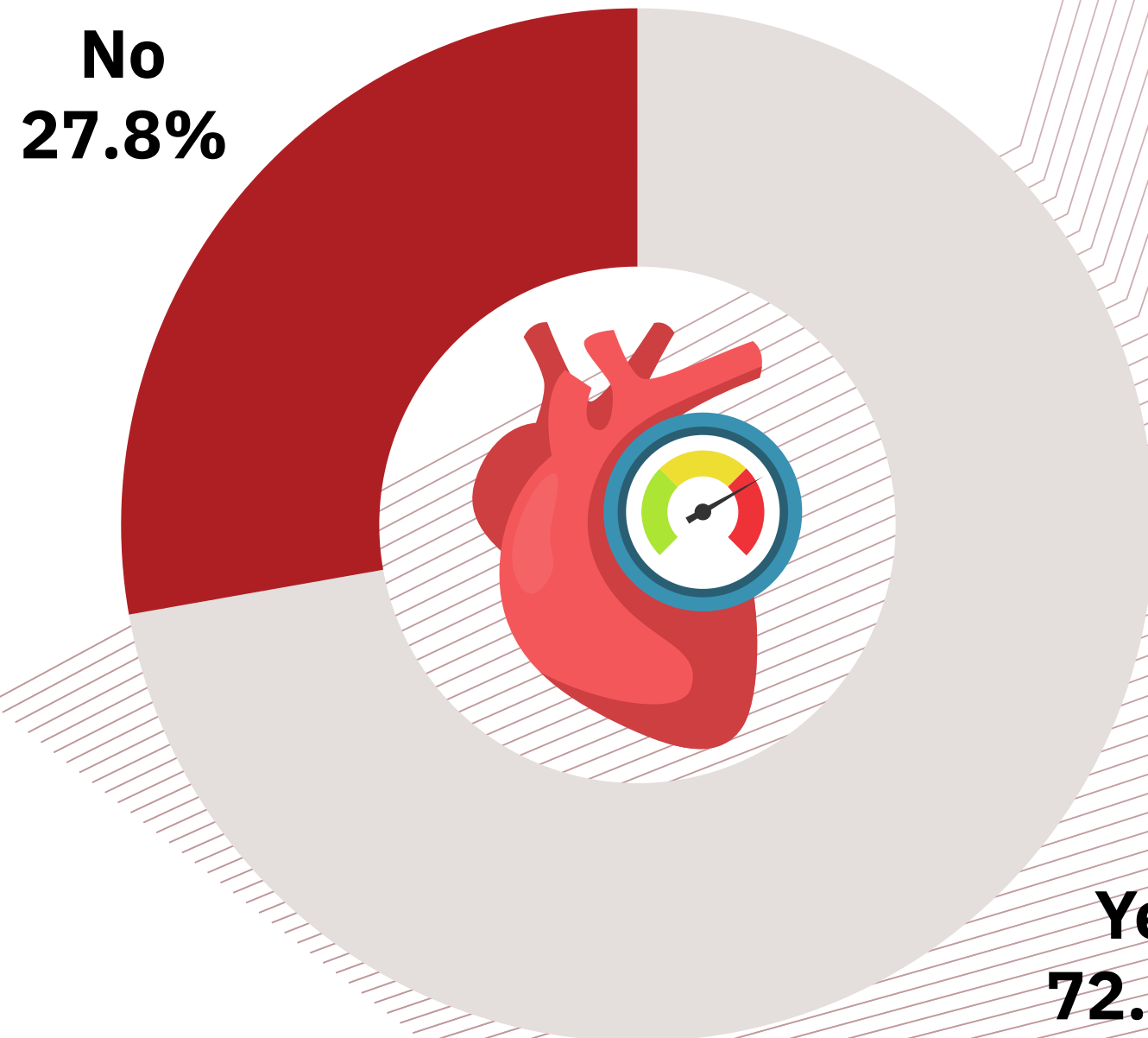


**Male:22 (%61.1) Female:14 (%38.9)**

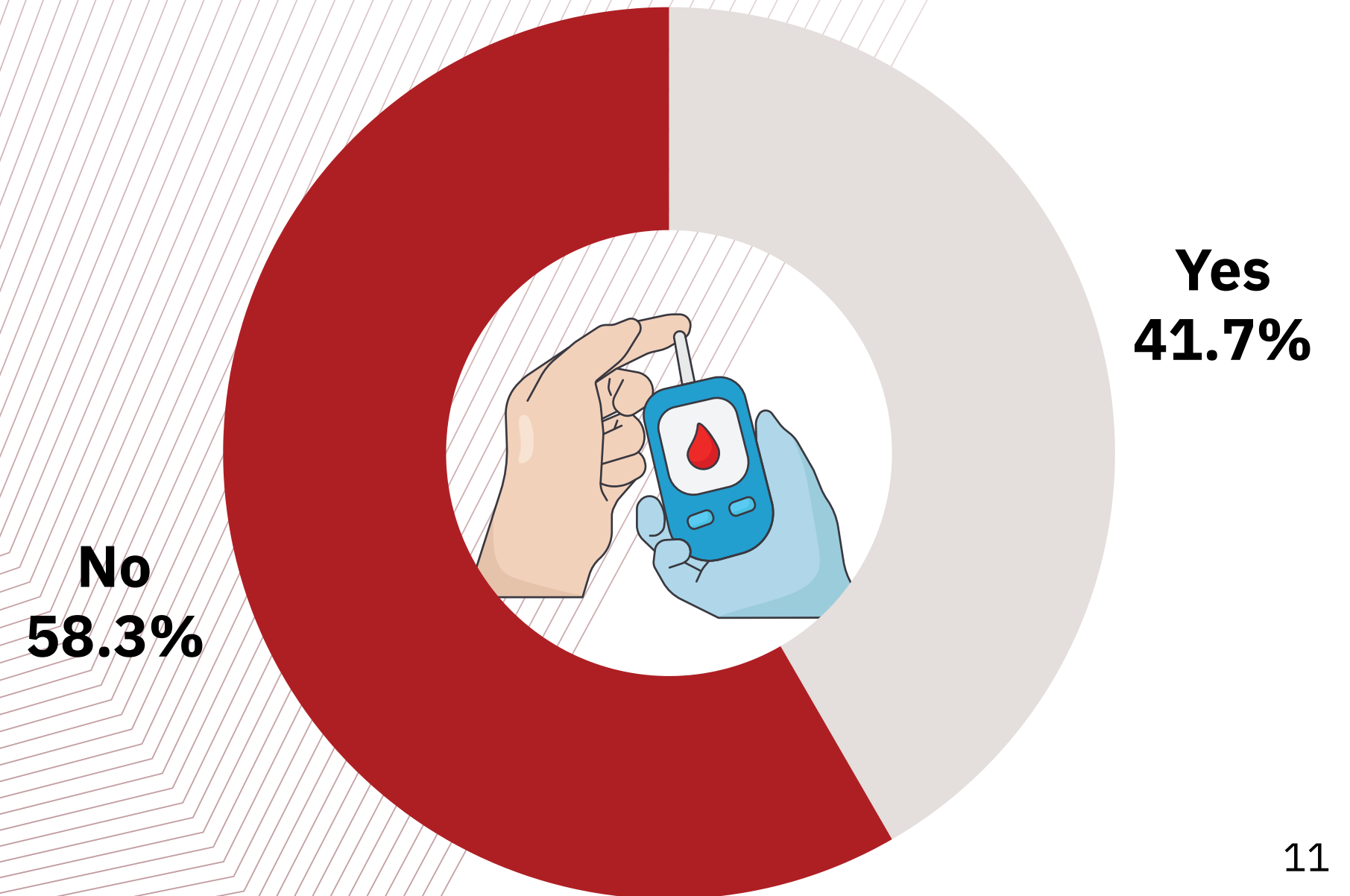


# FINDINGS

## HT



## DM





# DISCUSSION

- **Hypertension is the most important and modifiable** risk factor for CRVO.
- **Chronic HT** causes damage to organs such as **the heart, brain, kidneys, and eyes.**
- Treating HT helps prevent not only stroke but also eye and kidney-related complications.



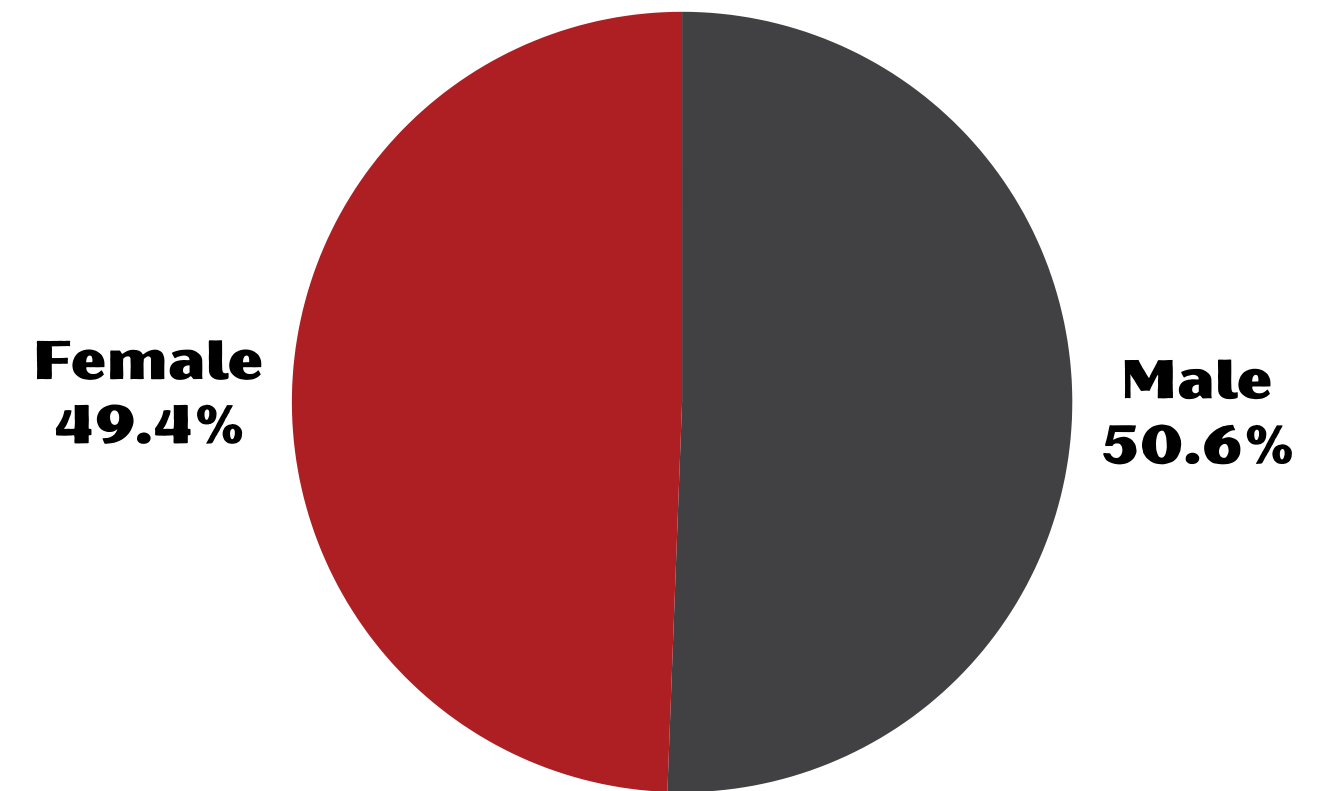
# DISCUSSION

- **DM** contributes to CRVO development through **endothelial damage and increased VEGF levels.**
- It is a systemic disease that causes microvascular complications.
- In the retinal vessel walls, **it leads to endothelial dysfunction and thickening of the basement membrane.**
- This results in **slowed blood flow, thrombosis, and increased risk of venous occlusion.**




# DISCUSSION

- Studies show that the incidence of CRVO increases with age and is slightly more frequent in **males (50.4%) than females (49.6%)**.
- In our study, **61.1%** of patients diagnosed with CRVO were **male**, which **aligns with the literature indicating a higher incidence in males**.



Retinal vein occlusion: an approach to diagnosis, systemic risk factors and management

J. W. Y. Yau  1 P. Lee, 1 T. Y. Wong, 2 J. Best, 1 A. Jenkins 1



# DISCUSSION

- Although CRVO affects both genders, studies suggest **higher incidence and earlier onset in males.**
- These findings emphasize the importance of **gender-specific approaches** in the prevention, early diagnosis, and management of CRVO.



# DISCUSSION

- In a previous study by Alp et al., **61.9% of CRVO patients had HT, and 23.46% had DM.**
- In our study, **HT was present in 72.2% and DM in 41.7%** of patients in the Thrace region – **a slightly higher rate compared to existing literature.**

☆ TRAKYA BÖLGESİNDE GÖRÜLEN RETİNA VEN KÖK TIKANIKLIKLARINDA KLİNİK SEYİR  
VE PROGNOZ

Yıl 2022, Cilt: 23 Sayı: 2, 223 - 230, 20.04.2022

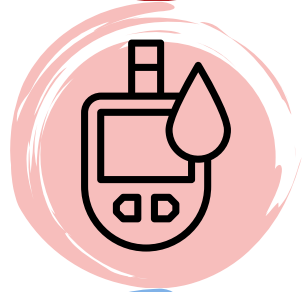
Mehmet Hanifi Alp\*, Vuslat Gürü, Göksu Alaçamli



# DISCUSSION



**-HT**



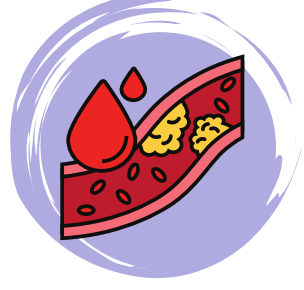
**-DM**



**-Smoking**



**-AF**



**-Dyslipidemia**



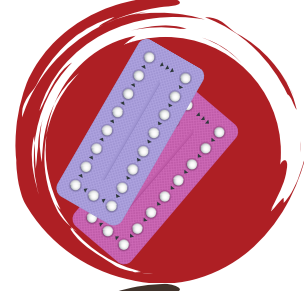
**-Postmenopausal HRT**



**-Asymptomatic Carotid Stenosis**



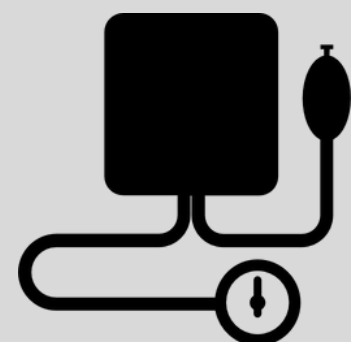
**-Obesity**



**-Oral Contraceptives**

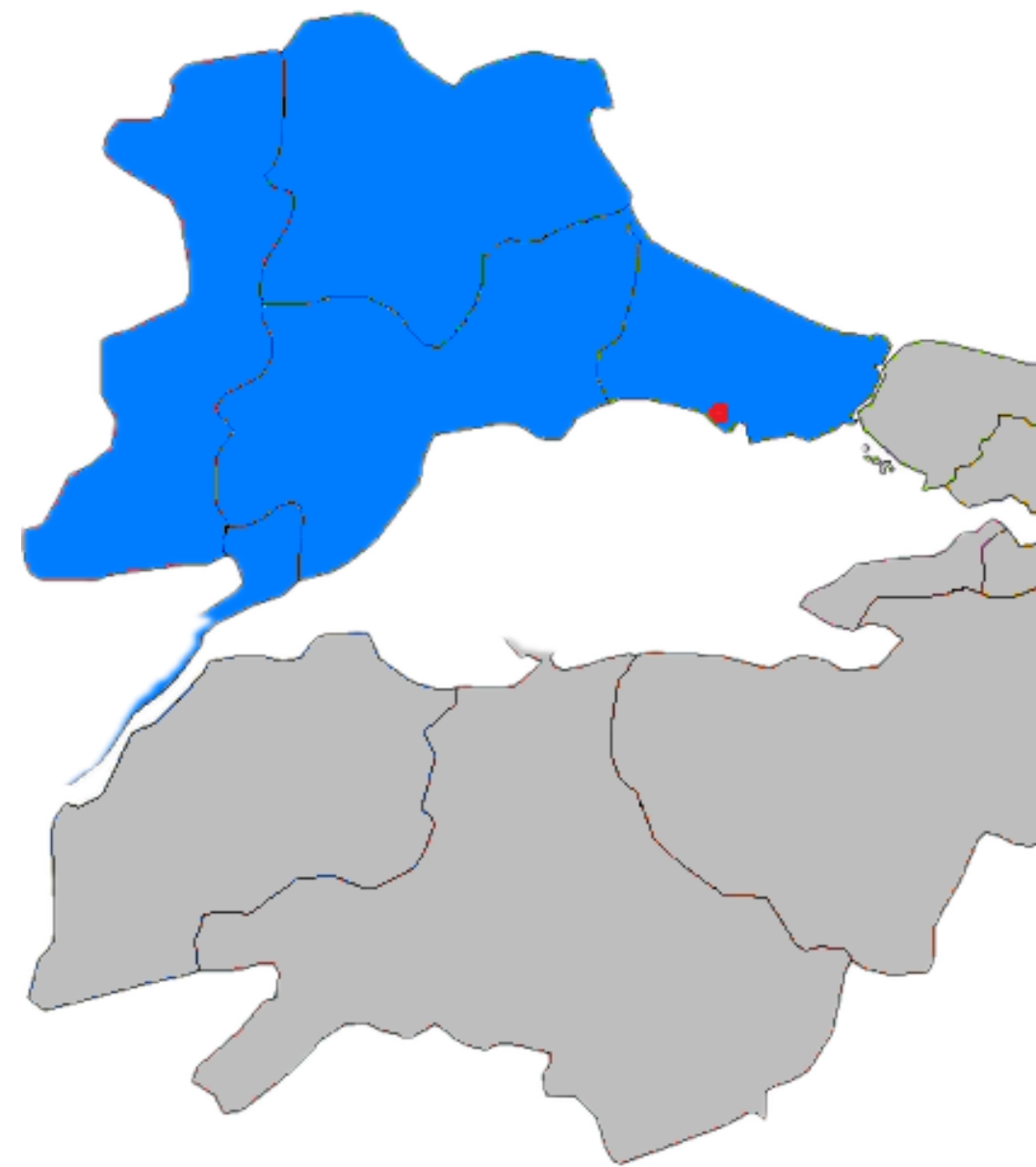


**-Sickle Cell Anemia**



# CONCLUSION

- In conclusion, **a personalized approach** should be adopted in the management and treatment of CRVO.
- **HT and DM have been identified as the main risk factors** for CRVO, and this is also valid for patients diagnosed in the Thrace region.
- **Controlling the underlying systemic disease** is of great importance.



# REFERENCES



