13.03.2019

UNIVERSITÄTSMEDIZIN GÖTTINGEN UMG

Gefäßverschlüsse des Auges

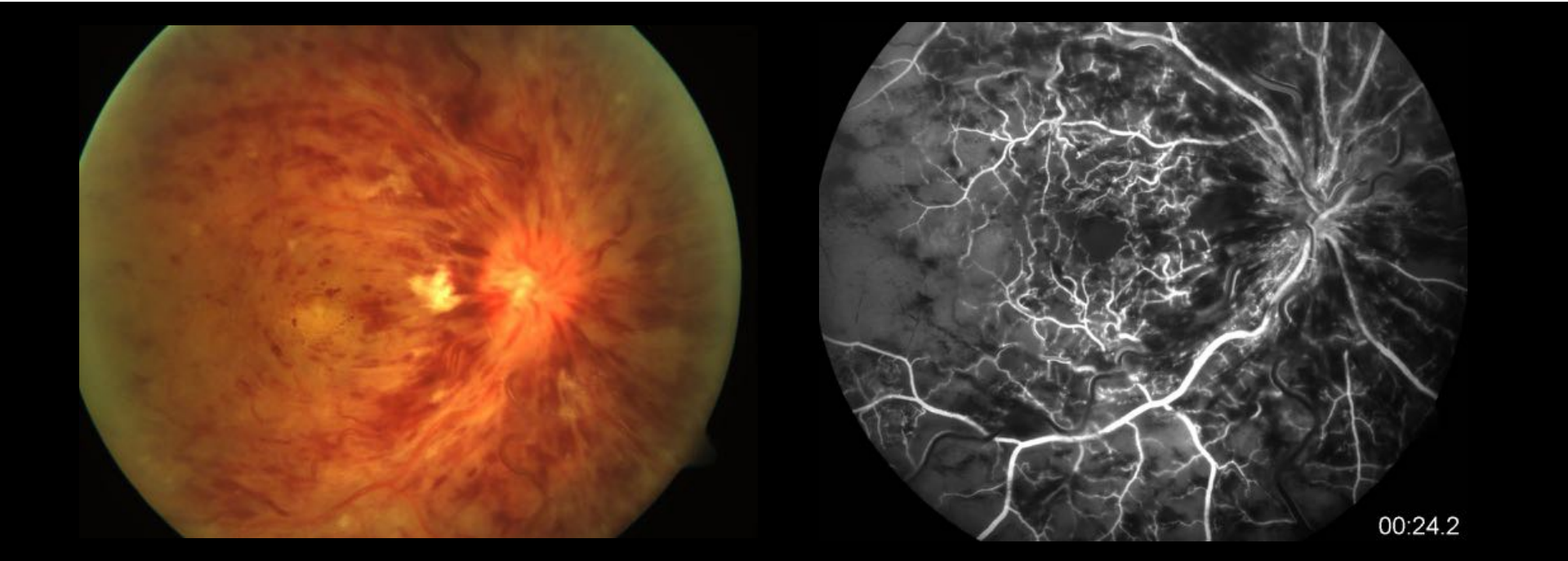
Neovaskuläre Komplikationen beim RVV

Nicolas Feltgen

Universitäts-Augenklinik Göttingen

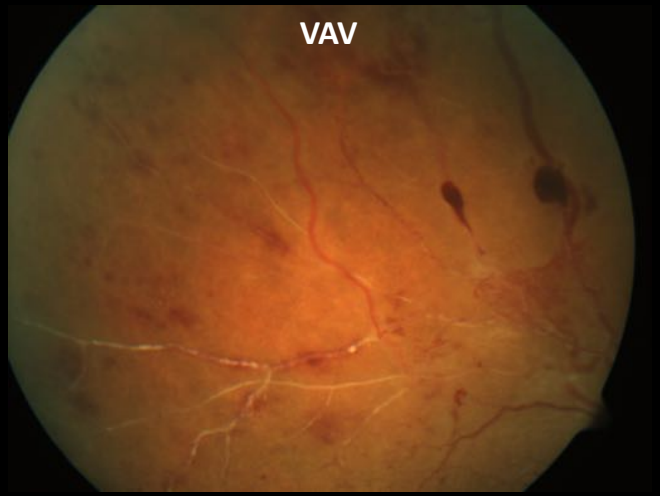
Untersuchungsempfehlungen

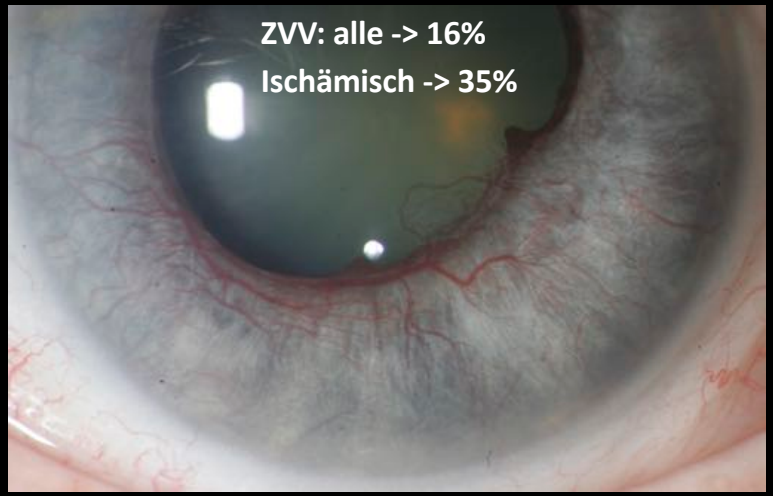
- Funduskopie: Monatlich bis Monat 6, danach mindestens quartalsweise
- Angiographie: In der Frühphase, evtl. später wiederholen



Was sagen die Daten?

- **ZVV –> 100-Tage Glaukom**
- **VAV -> GK-Blutung** (bis viele Jahre nach Verschluss)
- Konversion von ischämisch -> nicht-ischämisch: 33% innerhalb 3 Jahren
- BVOS (1986)/CVOS (1995):
  - Laser -> Gesichtsfelddefekte
  - Fortschreiten trotz Laser möglich (5%)
  - => Erst bei Proliferationen lasern ≠ Europäische Empfehlung





Was sagen die Daten?

- Erst bei Neovaskularisationen lasern?
- Bei anti-VEGF-Therapie überhaupt lasern?
- Behandlung des rubeotischen Sekundärglaukoms

Was sagen die Daten?

- **Erst bei Neovaskularisationen lasern?**
- Bei anti-VEGF-Therapie überhaupt lasern?
- Behandlung des rubeotischen Sekundärglaukoms

Wann lasern?

Accepted Manuscript

Retinal non-perfusion in the posterior pole is associated with increased risk of neovascularization in central retinal vein occlusion

Luke Nicholson, Clara Vazquez-Alfageme, Namritha V. Patrao, Ioanna Triantafyllopolou, James W. Bainbridge, Philip G. Hykin, Sobha Sivaprasad

PII: S0002-9394(17)30310-0

DOI: 10.1016/j.ajo.2017.07.015

Reference: AJOPHT 10213

To appear in: *American Journal of Ophthalmology*

Received Date: 27 April 2017

Revised Date: 13 July 2017

Accepted Date: 14 July 2017

Am J Ophthalmol. 2017 Oct;182:118-125.

VAV -> 5PD

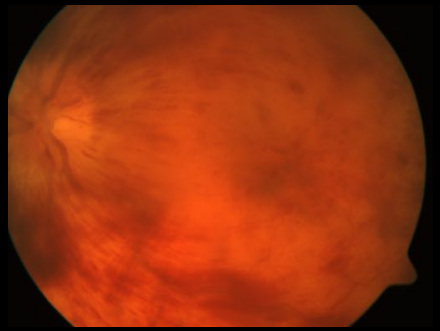
ZVV -> 10 PD

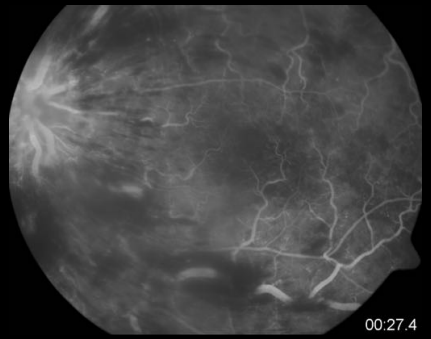
Fragen

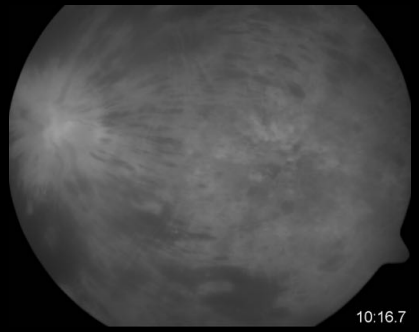
- Erst bei Neovaskularisationen lasern?
- **Bei anti-VEGF-Therapie überhaupt lasern?**
- Behandlung des rubeotischen Sekundärglaukoms

Langzeitverlauf mit VEGF-Inhibitoren – Fall 1

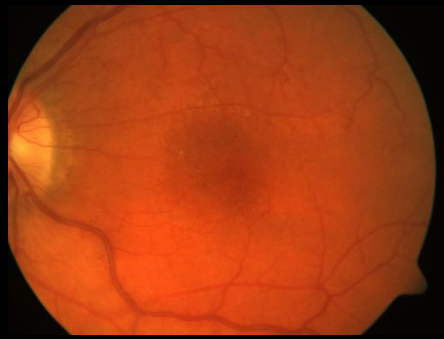
- Verschlussdauer 3 Monate
- Visus 0,1

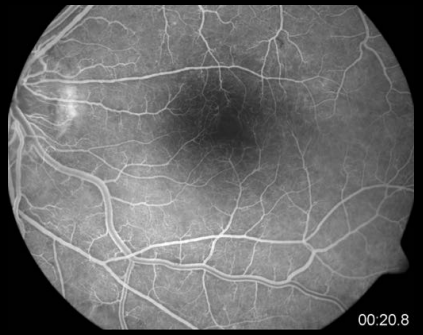


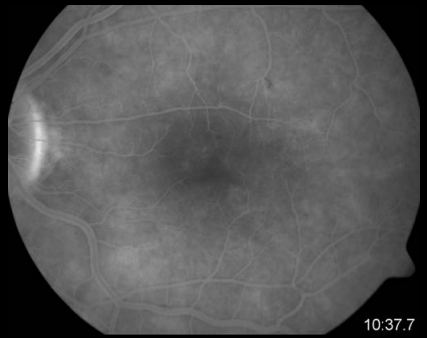




- Nach 12 Monaten
- Visus 0,6

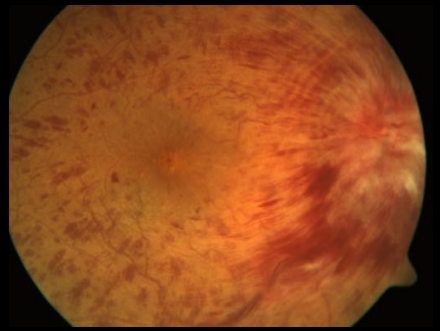


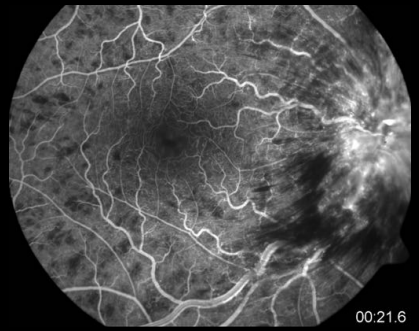


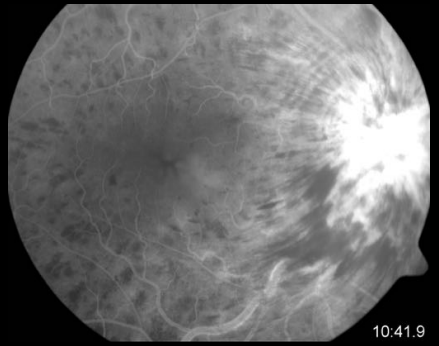


Langzeitverlauf mit VEGF-Inhibitoren – Fall 2

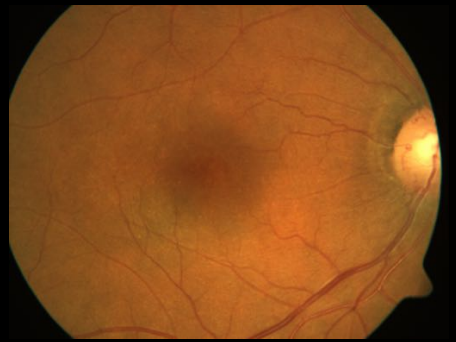
- Verschlussdauer 4 Wochen
- Visus 0,05

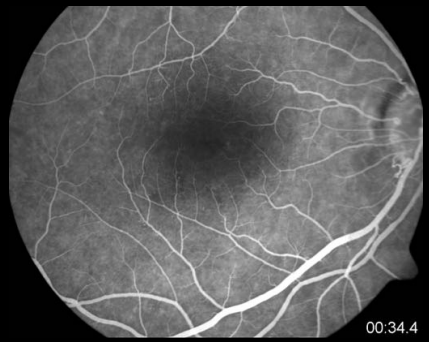


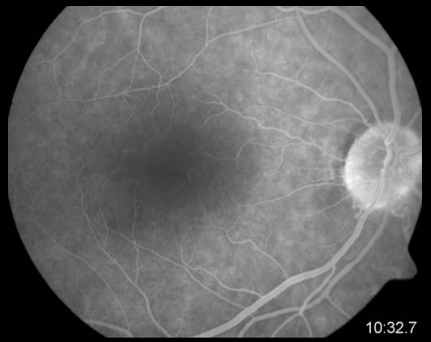




- Nach 12 Monaten
- Visus 0,5







Bei anti-VEGF lasern?

Periphere Ischämie: Entwicklung unter VEGF-Inhibitoren

RANIBIZUMAB IN PREPROLIFERATIVE (ISCHEMIC) CENTRAL RETINAL VEIN OCCLUSION

The Rubeosis Anti-VEGF (RAVE) Trial

DAVID M. BROWN, MD, CHARLES C. WYKOFF, MD, PhD, TIEN P. WONG, MD, ANGELINE F. MARIANI, BA, DANIEL E. CROFT, BA, KARRI L. SCHUETZLE; FOR THE RAVE STUDY GROUP

Purpose: To analyze the efficacy and safety of ranibizumab in eyes with preproliferative (ischemic) central retinal vein occlusion.

Methods: In this prospective, phase I/II, open-label clinical trial, eyes at high risk of neovascular complications were identified; all eyes met ≥3 of 4 high-risk criteria: 1) the best-corrected visual acuity being ≤20/200, 2) loss of the 1-2e isopter on Goldmann visual field, 3) relative afferent pupillary defect being ≥0.9 log units, and 4) electroretinogram B-wave reduction to ≤60% of the corresponding A-wave. Monthly intravitreal ranibizumab treatment for 9 months, monthly monitoring for 3 months, and then monthly examination with pro re nata retreatment on evidence of disease activity for 24 months were performed. Therefore, the total study duration was 36 months.

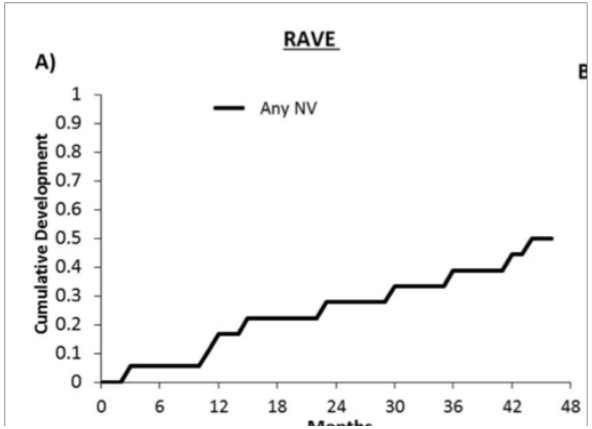
Results: The main outcome measures were mean change in the best-corrected visual acuity and central macular thickness by optical coherence tomography, proportion of patients with neovascular complications, and the incidence and severity of ocular and nonocular adverse events. Twenty patients were enrolled in the Rubeosis Anti-VEgf trial, and the mean number of intravitreal treatments administered through Months 24 and 36 were 14.1 and 17.2, respectively. The mean best-corrected visual acuity letters gained were +21.1 and +21.4 at 9 and 36 months, respectively. The mean central macular thickness improved −294 μm from baseline after 9 monthly treatments. Subsequently, after 3 months of observation, the mean central macular thickness increased +203 μm. On initiation of pro re nata ranibizumab retreatment, the mean central macular thickness then improved −191 μm at Month 36 compared with Month 12. Nine patients developed neovascular complications, being diagnosed after a mean of 24-month follow-up (range, 3–44 months), with 2 patients developing neovascularization after completion of the 36-month trial endpoint (at Month [illegible] after study enrollment).

Conclusion: Intravitreal ranibizumab therapy can improve retinal anatomy and vision in eyes with severe central retinal vein occlusion. Despite significant clinical benefit with antivascular endothelial growth factor therapy, the risk of neovascular complications was not ameliorated by vascular endothelial growth factor blockade, but was merely delayed.

RETINA [illegible]

Brown et al. Retina 2014;34:1728-35

- **20 Patienten mit schwerem ischämischem ZVV**
- **9 IVOMs monatlich**
- **Ab Monat 12: PRN**

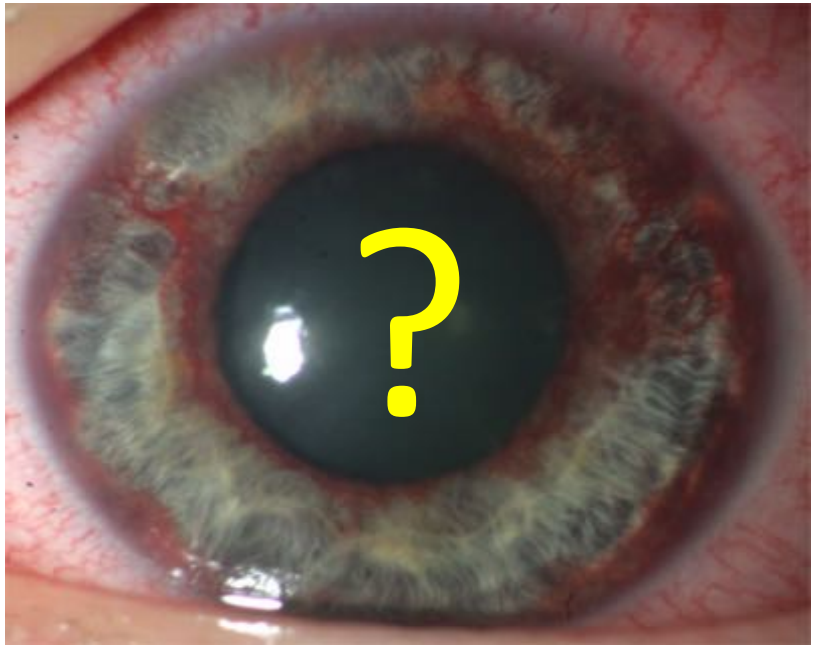


Verlauf abhängig von initialer Ischämie

Fragen

- Erst bei Neovaskularisationen lasern?
- Bei anti-VEGF-Therapie überhaupt lasern?
- **Behandlung des rubeotischen Sekundärglaukoms**

Vorgehen beim rubeotischen Sekundärglaukom



Lokal: Steroid 5x, Mydriase, Drucksenkung
Systemisch: Drucksenkung

- Laser + CPC
- (Kryo + CPC)

- Anti-VEGF, PPV, Laser

Fragen & Antworten

- Erst bei Neovaskularisationen lasern?

  -> Bei ausgeprägter Ischämie an Laser denken

- Bei anti-VEGF-Therapie überhaupt lasern?

  -> IVOM schützt nicht vor Proliferation

- Behandlung des rubeotischen Sekundärglaukoms

  -> Laser, ppV > NH-Kryo