

## Summary

Retinal vein occlusion is after diabetic retinopathy the most common retinal vascular disease and is a significant cause of severe visual impairment caused by irreparable retinal changes. The pathogenesis of retinal vein occlusion is multifactorial. Very important role play general risk factors as hypertension, diabetes, hyperlipidemia and smoking. However, the association between thrombophilic factors and retinal venous occlusion is not sufficiently clear yet.

The aim of our study was to analyze the prevalence of APC resistance, deficiency of protein C, S and antithrombin III as well as hyperprothrombinemia in patients with retinal vein occlusion compared to controls without retinal vascular diseases. No significant differences were found in the prevalence of these thrombophilic states between patients and controls. We found a sizable even not significant difference in the prevalence of APC resistance in patients younger than 55 years (14 %) compared to older patients (5.3 %) which prevalence was almost identical as in the control (5 %). Therefore, APC resistance may play a role in younger patients with retinal vein occlusion without general risk factors. To reach a statistic relevant power much bigger group of patients is required.

For patients with central retinal vein occlusion (CRVO) no effective therapy preserving the visual function was described to date. Currently no prospective study evaluating the effect of anticoagulation in patients with CROV was published. The result of our study showed that the part of patients with the unfavorable final best corrected visual acuity (BCVA) defined as 6/60 and less is significantly smaller in patients treated with warfarin in combination with Agapurin and Ascorutin compared to untreated patients (21.6 %; 49.5 % respectively). The significant effect of anticoagulation on final BCVA was found in patients with non-ischemic CRVO and initial BCVA 6/60 and worse (37.5 % versus 88.2 %). In patients with initial BCVA 6/12 and better as well as in patients with ischemic CRVO no significant effect of anticoagulation was found. Relevant is the reduction of secondary complications (i.e. neovascular glaucoma) in patients with ischemic CRVO. Based on these results anticoagulation seems to be one of the few effective methods affecting the causality of the CRVO. Further prospective, randomized and controlled studies are required to confirm the observed effect of anticoagulation. The exact dose and length of this treatment has to be clarified.