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LETTER

Enhancing the Understanding of Complement Protein Changes in RVO: Insights and Suggestions [Letter]

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Dear editor

We have read with great interest the article titled "Dynamic Complement Protein Changes in Aqueous Humor and Plasma of Patients With Retinal Vein Occlusion During Ranibizumab Treatment" by Guo et al,[1] published in the Journal of Inflammation Research. The authors have conducted a prospective, consecutive case series study to investigate the dynamic changes of complement proteins in aqueous humor (AH) and plasma of retinal vein occlusion (RVO) patients during ranibizumab treatment, which provides valuable insights into the immunopathological mechanisms of RVO. However, after careful reading, we would like to raise several concerns and suggestions that could further enhance the study.

First, the lack of a control group. The study focused on the changes in complement proteins during ranibizumab treatment in RVO patients but did not include a control group without RVO. Including a control group would have provided a more comprehensive understanding of the baseline levels of complement proteins in healthy individuals and allowed for a better comparison of the changes observed in RVO patients. This is particularly important given that the study did not find significant changes in plasma complement proteins, which might be due to the absence of systemic complement activation or simply because there was no comparison with healthy controls.

Second, the potential influence of disease duration. The authors noted that the plasma concentrations of C4 in RVO patients were correlated with disease duration. However, the study did not further explore the relationship between disease duration and other complement proteins or the overall treatment outcomes. Given that the duration of RVO can affect the severity and response to treatment, it would be beneficial to analyze the data with respect to disease duration more thoroughly.[2] This could help identify whether certain complement proteins might serve as biomarkers for disease progression or treatment efficacy.

Last, the correlation analysis between complement proteins and clinical outcomes. The study found a significant positive correlation between the change in central retinal thickness (CRT) and the levels of C5a, CFB, CFH, and CFI at baseline. However, no correlation was observed between complement protein levels and best-corrected visual acuity (BCVA) changes. It would be interesting to investigate whether the changes in complement proteins at different time points (eg, month 1 and month 2) might correlate with the improvement in BCVA or other clinical parameters. This could provide more insights into the potential role of complement proteins as predictive biomarkers for treatment response.[3]

In conclusion, the study by Guo et al has provided valuable information on the dynamic changes of complement proteins in RVO patients during ranibizumab treatment. However, addressing the above concerns could further strengthen the study and contribute to a more comprehensive understanding of the role of the complement system in RVO. We look

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forward to seeing more research in this area to explore the potential of complement proteins as biomarkers and therapeutic targets for RVO.

Disclosure

No potential conflicts of interest relevant to this communication were reported.

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