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LETTER

Letter to the Editor: Potential of Activated Growth Factor From Platelets in Diabetic Retinopathy Treatment [Letter]

Sari Luthfiyah[1], Triwiyanto Triwiyanto[2], Mohammed Ismath[3]

[1]Department of Nursing, Poltekkes Kemenkes Surabaya, Surabaya, Indonesia; [2]Department of Electromedical Technology, Poltekkes Kemenkes Surabaya, Surabaya, Indonesia; [3]Inamdar Multi-Specialty Hospital, Pune, Maharashtra, India

Correspondence: Sari Luthfiyah, Email sarilut@poltekkesdepkes-sby.ac.id

Dear editor

I would like to commend Amin et al for their insightful study on the potential role of activated growth factor (AGF) from platelets in the treatment of diabetic retinopathy (DR).[1] Their research highlights the ability of TGF-β-enriched AGF to reduce oxidative stress and inflammation, key contributors to DR progression. The study demonstrated that AGF administration significantly lowered markers such as ROS, TNF-α, IL-1β, and VEGF, while enhancing SOD activity in diabetic rat models. Importantly, the observed reduction in retinal artery dilation and inflammatory cytokines suggests that AGF could be a promising therapeutic avenue in preserving retinal vascular integrity in diabetic patients.

Despite these promising findings, the study has some limitations that warrant further investigation. First, while the animal model provides a controlled environment, its translatability to human DR requires careful validation through clinical trials. The potential long-term effects and safety profile of AGF remain unclear, especially regarding its systemic interactions beyond the retina. Additionally, the study did not assess the durability of AGF-induced effects, raising questions about the optimal frequency and dosage needed for sustained therapeutic benefits.

To address these gaps, future research should explore human-based clinical trials assessing AGF's efficacy, safety, and potential adverse effects.[2] Moreover, comparative studies with existing DR treatments (such as anti-VEGF therapies) could establish AGF's place in the treatment hierarchy.[3] Investigating novel delivery methods, such as intravitreal injections or sustained-release formulations, may enhance the clinical applicability of AGF while minimizing potential risks.[4] If validated in human subjects, AGF could revolutionize DR management by targeting both oxidative stress and inflammation, offering a dual-action approach to a condition with limited curative options.[5]

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

During the preparation of this work, the author(s) utilized [QuillBot and SciSpace] to refine the language without altering the scientific substance of the manuscript.

Disclosure

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this communication.

References

1. Amin R, Hidayat R, Maritska Z, Putri TW. Activated growth factor from platelets as treatment for diabetic retinopathy through antioxidant-oxidative stress pathway. *Diabetes Metab Syndr Obes*. 2025;18:305–313. doi:10.2147/DMSO.S490055

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2. Gao X, Cai X, Yang W, Chen Y, Han X, Ji L. Meta-analysis and critical review on the efficacy and safety of alpha-glucosidase inhibitors in Asian and non-Asian populations. *J Diabetes Invest*. 2018;9(2):321–331. doi:10.1111/jdi.12711
3. Bahr TA, Bakri SJ. Update on the management of diabetic retinopathy: anti-VEGF agents for the prevention of complications and progression of nonproliferative and proliferative retinopathy. *Life*. 2023;13(5):1098. doi:10.3390/life13051098
4. Kim HM, Woo SJ. Ocular drug delivery to the retina: current innovations and future perspectives. *Pharmaceutics*. 2021;13(1):1–32. doi:10.3390/pharmaceutics13010108
5. Tang Q, Buonfiglio F, Böhm EW, et al. Diabetic retinopathy: new treatment approaches targeting redox and immune mechanisms. *Antioxidants*. 2024;13(5):594. doi:10.3390/antiox13050594

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