Structural and Functional Outcome of Vitrectomy Combined with Subretinal Recombinant Tissue Plasminogen Activator for Isolated Subpigment Epithelial Hemorrhages

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Dear Editor

We are very grateful to Fotis et al. [1] for their interest in our recently published study [2] that presents the structural and functional outcome after pars plana vitrectomy combined with subretinal recombinant tissue plasminogen activator (rtPA) treatment for isolated subretinal, subpigment epithelial (SPH), and combined hemorrhages. Here, we would like to respond to the questions that were raised by the authors:

We thank the authors for the presentation of their case report, which confirms the findings of our study that a patient with SPH may benefit from subretinal rtPA treatment, even if with a mainly anatomical improvement. However, the published case presents an exceptional and very convincing response to prompt and consequent subretinal rtPA treatment in an eye with a short hemorrhage duration of only 4 days. Unfortunately, since subretinal hemorrhages mostly occur in elderly patients, it is not uncommon that diagnosis and treatment starts with a delay of several days or even weeks. In our study, the mean duration of submacular hemorrhage was 11.1 ± 12.4 (mean $\pm$ SD) days before initiating surgery. Still, in those 11 eyes classified as isolated SPH, we found a strong anatomical but only a slight functional benefit following subretinal rtPA treatment. Although not statistically signifi-

cant, the best-corrected visual acuity of the SPH subgroup improved with an average gain of 1.1 lines. We therefore congratulate the authors for their very outstanding functional outcome from logMAR 1.20 to logMAR 0.60 one week after re-vitrectomy combined with subretinal rtPA and 25% SF₆ gas tamponade.

Anatomically, this could be explained, in fact, by drainage into the subretinal space, either through microruptures or through possible subclinical retinal pigment epithelial tear (RIP) formation. The optical coherence tomography scans provided in this case report could be interpreted as a limited RIP. We therefore recommend reviewing all available optical coherence tomography scans again. Nevertheless, even if a possible RIP might not be present in this case, a subretinal treatment for SPH needs to be discussed critically beforehand. For any manipulation below the retinal pigment epithelium, there must be considerations about a potential benefit against the risk of provoking a RIP. Our study results allow for a clinical presurgery assessment of the underlying case, based on its anatomical characteristics [2]. However, the case of Fotis et al. [1] is important, since it strikingly demonstrates the possibility of a SPH displacement with subretinal rtPA treatment.

Disclosure Statement

All authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest (such as honoraria; educational grants; participation in speakers' bureaus; membership, employment, consultancies, stock ownership, or other equity interest; and expert testimony or patent-licensing arrangements) or nonfinancial interest (such as personal or professional relationships, affiliations, knowledge, or beliefs) in the subject matter or materials discussed in this article.

References

- 1 Fotis K, Garcia Cabrera R, Ohn M, Chandra A: Anatomical and functional outcome of pars plana vitrectomy and subretinal recombinant tissue plasminogen activator for a macular subpigment epithelial haemorrhage. *Ophthalmologica* 2017, DOI: 10.1159/000475891.
- 2 Waizel M, Todorova MG, Kazerounian S, Rickmann A, Blanke BR, Szurman P: Efficacy of vitrectomy combined with subretinal recombinant tissue plasminogen activator for subretinal versus subpigment epithelial versus combined hemorrhages. *Ophthalmologica* 2016;236:123–132.