Sir,
Response to: 'Comment on The Eye Phone Study: reliability and accuracy of assessing Snellen visual acuity using smartphone technology'

We thank Rodríguez-Vallejo[1] for the comments on our paper.[2] The issues raised about the inadequacies of the Snellen Visual Acuity chart as a measure of vision are well founded, and we agree there are far better tools as highlighted in our paper.[2] However, the scope of our paper was to compare the smartphone visual acuity applications with the visual acuity measures most commonly used on a day-to-day basis in clinical practice. It has been our experience that the Snellen visual acuity chart is used far more frequently than any other standardised chart in clinical practice by physicians (including non-ophthalmologists such as general practitioners and emergency departments).

Our formula for calculation of optotype size is also based on the arcminutes subtended by each letter, where we have calculated the ideal optotype size for a standard letter and combined this with modifiers based on VA measure and distance from the chart. When tested, both formulas yield similar results.

With regard to Rodríguez-Vallejo's finding that the 'Snellen' app is more inaccurate on an iPhone 6, as mentioned in the letter, it is likely due to the non-responsive design of the application, leading to different results from our study, where we specifically used an iPhone 4 for all data collection. Tablets offer an exciting opportunity for visual acuity measurement, with many well-developed applications for visual acuity testing.[3] For the purposes of this study, we chose to focus on smartphones, as these are carried ubiquitously by medical practitioners, and, anectodally, in our practice we noted that physicians used smartphone apps to check visual acuity more frequently than tablets.

Tests of vision using both smartphones and tablets is a rapidly developing area, and we look forward to reviewing the latest developments. We strongly believe there is a need for greater medical input when developing these apps, especially in the light of the recent FDA guidance.

Conflict of interest

The authors declare no conflict of interest.

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Eye (2015) **29,** 1628; doi:10.1038/eye.2015.169; published online 11 September 2015

Sir,
Comment on 'Failure of intravitreal bevacizumab in the treatment of choroidal metastasis'

We read with interest the article published in your journal 'Failure of intravitreal bevacizumab in the treatment of choroidal metastasis'.[1]

We agree that intravitreal bevacizumab as the primary treatment of choroidal metastases might not always be efficacious in controlling the disease and should not delay treatment that is more radical.

As the authors mentioned, choroidal metastases are associated with significant exudation; the choriocapillaris and Bruch's membrane are intact, and this may hinder the passage of the bevacizumab molecule through the retina.

Hence, we suggest another alternative, which is the use of systemic Bevacizumab, in association with chemotherapy in the treatment of choroidal metastasis. Systemic administration of bevacizumab could be superior to intravitreal injections due to its greater potential to concentrate in the metastatic tissue via the rich choroidal blood supply, regardless of the blood–retina barrier.

Systemic bevacizumab is nowadays an approved therapy for metastatic cancers originating from lung, ovaries, cervix, colon, brain, kidney and even the breast.[2] Combining systemic bevacizumab with chemotherapy seems to be an interesting modality of treatment in choroidal metastasis.

Two studies (Kourie *et al*[3] and George *et al*[4]) have recently published two cases of lung cancer with chroidal metastases successfully treated with systemic bevacizumab and chemotherapy. Obviously, further studies are warranted to confirm the IV superiority of Bevacizumab compared with intravitreal delivery in this setting.

Conflict of interest

The authors declare no conflict of interest.

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Eye (2015) **29,** 1628–1629; doi:10.1038/eye.2015.174;
published online 18 September 2015

Sir,

Intravitreal bevacizumab for choroidal metastases: the key to efficacy is simultaneous administration of systemic therapy

We read the recent case series reported by Maudgil *et al*[1] wherein they described their experience with use of intravitreal bevacizumab (IV-Bev) for treatment of choroidal metastases (CM) in five patients and concluded that it is not recommended as the primary treatment for this clinical scenario. We have previously reported encouraging responses with use of IV-Bev in CM from non-squamous non-small-cell lung cancer (NSCLC).[2] We had also subsequently carried out a systematic review on use of IV-Bev in CM from lung cancer of whom five had been treated at our centre.[3] It is important to note that in all of the cases reported/identified by us, IV-Bev was used in combination with some form of systemic therapy.[2,3] We would like to highlight here that in the series by Maudgil, in three of the four cases in whom progression of ocular lesions was noted while on IV-Bev, no systemic therapy was initiated simultaneously.[1]

Bevacizumab targets angiogenesis, an important pathophysiological basis for tumorigenesis and metastasis, and is approved for systemic use in patients with non-squamous NSCLC but not other histological types of lung cancer. The role of histology in predicting response to IV-Bev for CM from LC is similar to that for use of systemic bevacizumab, and this led us to simultaneously caution against IV-Bev use in CM from small cell lung cancer.[3] Moreover, in the only patient in our systematic review with non-squamous NSCLC who had progression of CM during treatment with IV-Bev plus first-line chemotherapy, administration of systemic bevacizumab and IV-Bev plus second-line chemotherapy led to regression of CM.[2,3]

We believe that the key to effectiveness of IV-Bev in CM lies in a multidisciplinary approach wherein the treating oncologist initiates the most appropriate form of systemic therapy (chemotherapy or targeted/hormonal therapy) at the same time as the use of IV-Bev by the ophthalmologist. In our opinion, it would be therefore prudent not to hastily conclude about the lack of effectiveness of IV-Bev for CM in general. Despite the relatively small number of patients globally in whom this treatment modality has been used, the biological plausibility for the effectiveness of this drug combined with the encouraging responses so far makes IV-Bev an effective treatment option for local control of CM from non-squamous NSCLC.[3] We would also tend to believe that CM from other solid tumors may also have variable degrees of responsiveness to IV-Bev, as has been documented in the literature, *including those published in your journal*.[4–6]

In conclusion, while we fully agree with that use of IV-Bev for CM should not delay initiation of other treatment modalities, we strongly believe that this implies using the most appropriate form of systemic therapy in combination with IV-Bev rather than not using IV-Bev at all.

Conflict of interest

The authors declare no conflict of interest.

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Eye (2015) **29,** 1629; doi:10.1038/eye.2015.176;
published online 18 September 2015