

OCT angiography (OCTA): investigating real-world experience in neovascular AMD new patient clinic when using OCTA compared to the gold standard FFA

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Introduction

Age-related macular degeneration (AMD) is the most common cause of irreversible blindness in the older population.¹

Fluorescein angiography (FFA) is the gold standard investigation for AMD but it is invasive, takes 15 minutes to perform and some patients may experience allergic reactions to the fluorescein dye. Optical coherence tomography angiography (OCTA) has become increasingly used as a non-invasive and fast modality for imaging neovascular AMD (nAMD).²

Clinical studies have shown that the sensitivity of OCTA in detecting nAMD is 70% compared with the gold standard FFA. Most of the current literature uses the AngioVue RTVue XR from Optovue. This study aims to assess the usefulness of OCTA in patients with nAMD using the Topcon DRI OCT Triton and to also assess whether our model is comparable to current literature.

Materials and methods

Thirty-one patients were referred by community optometrists or from subspecialties within ophthalmology. They attended the rapid-access AMD clinic as new patients. The study looked at data from a real-life outpatient clinic at University Hospital of Wales, Cardiff.

Examinations included best-corrected visual acuity, dilated funduscopy, standard structural optical coherence tomography (OCT), FFA and OCTA (using the Topcon DRI ICT Triton model). FFA images were graded. OCTA images were reviewed and graded to determine whether choroidal neovascular membrane (CNV) was seen.

Results and discussion

FFA and OCTA images were taken from the 31 patients. Their mean age was 80.7 years. Of the 31 patients, CNV was identified on FFA in 29 eyes, compared with 24 eyes on OCTA. Of the 24 CNV identified on OCTA, 23 were also identified on FFA and one was not seen on FFA.

When using FFA images as the gold standard, sensitivity and specificity of OCTA images were calculated as 79.3% and 83.3% respectively.

Six OCTA images were excluded, including two due to poor image quality and four having no identifiable neovascular networks.

Conclusion

OCTA is an imaging modality with great potential. Despite Topcon DRI having little published evidence examining its use in AMD, this study has produced sensitivity levels of 79.3%, which proves that this model can provide similar outcomes to models (such as the AngioVue RTVue XR) used in other studies.

Overall, the high levels of sensitivity and specificity that this study has produced could mean a significant reduction in the number of FFAs being carried out in the diagnosis of nAMD. Although it is unlikely that OCTA will fully replace FFA, treatment for nAMD can be started in patients where CNV is obvious on OCTA. ■

Conflicts of interest

None declared.

References

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