New imaging equipment offers major improvement for the treatment of AMD

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The use of the anti-VEGF drugs Lucentis® and Eylea® for eye conditions like age-related macular degeneration (AMD) has made imaging of the back of the eye, the retina and choroid, that more essential for ophthalmologists. Patients will now routinely have a scan of their eye every time they go to the retinal clinic: this is normally a non-invasive, OCT scan (optical coherence tomography) which gives a cross-sectional image of a patient's retina.

However the OCT does not show the detail of blood vessels of the eye nor the neovascular membranes which are so characteristic of wet AMD.

The traditional way of imaging retinal blood vessels has been fundus fluorescein angiography where a fluorescent dye is injected into the patient's bloodstream.

The dye highlights the blood vessels in the back of the eye so they can be photographed using a Fundus camera equipped to capture light reflected from the retina. But as anyone who has had this test knows, it is unpleasant, time consuming and can induce nausea in 10-15% of people with a severe allergic reaction occurring for 1 in 300 patients. Yet, these dye tests are routinely carried out in eye clinics round the world, very often alongside the non-invasive OCT structural imaging.

The introduction this year of a totally new system of OCT will in my opinion replace 80% of fundus fluorescein angiography currently done. Known as OCT-A or OCT fundal angiography it gives high quality images of the blood vessels of the eye both superficial and deeper in the choroid layer behind the retina.

OCT-A is non-invasive with no side effects, and can be carried out at the consultation, thus not delaying the start of any treatment. It produces images that are far sharper and clearer than we have ever seen before.

Having used Zeiss OCT-A equipment for the past month the quality of the images has thoroughly impressed me. It is changing the management of my patients each day: I am able to see the kind of detail that was just not visible before. It is now possible to actually see the size, shape and detail of the growing blood vessels of wet AMD.

Currently we are usually reactive with standard OCT as we are unable to see the actual growing new vessels. With this new technology it will be possible to compare the size of the proliferating blood vessels in the choroid and start treating immediately or recommence treatment earlier even before fluid returns.

This is a new era in imaging of the eye that will benefit patients with vein occlusions and macular degeneration of the eye. While the cost of the equipment is high, I hope that the far greater safety and ease of operation of OCT-A will mean its rapid introduction to eye clinics in the UK.

The OCT-A scanner