

Optos' Optomap improves detection of eye lesions – studies

Optos' ultra-wide field retinal scanning technology could detect more defects than traditional techniques, two studies have suggested.

The firm's Panoramic200C (P200C) series of scanning laser ophthalmoscopes (SLOs) produce an image called an Optomap, which visualises 200 degrees (around 82%) of the retina. Conventional retinal imaging devices, such as fundus cameras, can only visualise the central part of the retina, the macula, so could miss changes in the periphery.

Optos (Dunfermline, UK) hopes that this advantage will make its technology the gold standard in retinal imaging. Optomap images can be used to detect retinal disorders such as glaucoma, diabetic retinopathy and age-related macular degeneration.

Retinal lesions can also reflect changes elsewhere in the body, such as diabetes, hypertension and certain cancers, including colorectal cancer. Many of these problems can go undetected because there are no nerve endings in the eye, meaning that damage to the retina does not necessarily

cause pain. Patients therefore often do not visit their doctors with symptoms until it is too late.

The two latest studies were presented at the annual meeting of the Association for Research in Vision and Ophthalmology (ARVO), held in Fort Lauderdale, Florida, on 2-6 May. In the first study, 170 people with an average age of 48 underwent retinal imaging using Optos' P200C device or had a traditional dilated eye exam. The two techniques were compared, as well as the combination of Optomap and the dilated eye exam.

The researchers found that the combination approach detected around 30% more lesions than the conventional exam alone. "Image-assisted ophthalmoscopy with ultra-wide field P200C SLO significantly improves clinical evaluation of the retina as compared with traditional ophthalmoscopy alone," the authors concluded. "Further study should be directed at evaluating the ability of ultra-wide field SLO to detect retinal lesions independent of ophthalmoscopy."

The second study evaluated 573 people

aged 62 and older with Optos' P200C AF device or a conventional fundus camera. It aimed to assess whether changes in the periphery of the retina could predict damage to central vision.

The researchers found that 56% of participants had symptoms in the periphery of the retina with features that are normally associated with age-related macular degeneration. Seven participants had changes on the periphery without end-stage disease in the macula. These peripheral lesions may not have been picked up by traditional imaging. Furthermore, no-one with end-stage disease in the macula had a normal retinal periphery.

"There are wide ranging pathological changes in the periphery even in those who have no central pathologies," the authors concluded. "The predictive values for these peripheral pathological changes are yet to be determined." The trial was a follow-up of the Reykjavik Eye Study, which aimed to establish the incidence of cataract, glaucoma and age-related macular diseases in Reykjavik, Iceland.

Optos provided funding for both studies.



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