

Non-invasive testing for early detection of neovascular macular degeneration in unaffected second eyes of older adults: EDNA diagnostic accuracy study

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Plain English summary

EDNA diagnostic accuracy study

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Plain English summary

Wet age-related macular degeneration is the leading cause of sight loss in older people. It is diagnosed using fundus fluorescein angiography, which involves photographing the retina after the injection of a dye into a vein in the arm, which may result in allergic reactions.

Many people with wet age-related macular degeneration in one eye will also develop it in their second eye. To avoid regular fundus fluorescein angiography, non-invasive tests are used to routinely monitor for wet age-related macular degeneration in the second eye of patients with wet age-related macular degeneration already in one eye.

We studied five commonly used and easily performed non-invasive tests to see which best detected the onset of wet age-related macular degeneration.

The five tests were:

- self-report of vision
- self-completion of an Amsler chart
- a standard sight test
- examination of the retina by a specialist
- optical coherence tomography, which is a non-invasive scan of the central retina.

If any tests suggested wet age-related macular degeneration, fundus fluorescein angiography was performed to compare results.

In total, 552 hospital eye clinic patients who had wet age-related macular degeneration in only one eye took part. Over a 3-year period, wet age-related macular degeneration developed in the second eye in 145 people (26%), of whom 120 had undergone fundus fluorescein angiography. In 25 people with wet age-related macular degeneration, fundus fluorescein angiography was not carried out for safety reasons or because the patient did not want to undergo it.

Of all the tests, only optical coherence tomography was good at detecting wet age-related macular degeneration correctly (92% sensitivity) and at detecting those who did not have wet age-related macular degeneration (88% specificity). All other tests either did not detect wet age-related macular degeneration consistently when it occurred or gave a false positive result when it had not occurred. This study confirmed that optical coherence tomography detected wet age-related macular degeneration correctly in the second eye of people with wet age-related macular degeneration in their first eye, and may offer cost saving for the NHS.

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This report

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