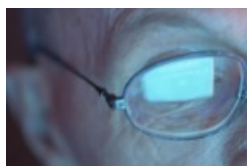


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Age-related macular degeneration: What can photodynamic therapy do?



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The macula is the central part of the retina, and it is responsible for seeing fine details in bright light. This is because there are so many light-sensitive cells very close together in this area of the eye. As we age, some of these cells die and leave scarring. If this loss of cells goes too far, our vision will be noticeably impaired. This condition is called age-related macular degeneration (AMD) and it is the most common cause of vision loss in people over 65.

There are two forms of AMD. About 8 out of 10 people have so-called dry AMD and the others (about 2 out of 10) have wet AMD. With wet AMD, new blood vessels develop around the macula, and these can increase scarring. This kind of AMD is also called neovascular AMD. You can read more about AMD here (URL: <http://www.informedhealthonline.org/index.207.en.html>).

There is as yet no effective treatment for dry AMD. Medicines injected into the eyes are a treatment option, though, for some people who have wet AMD. This is the most effective treatment at the moment. You can read more about these medicines and other treatments here (URL: <http://www.informedhealthonline.org/index.303.56.en.html>)

In combination with other therapies, so-called photodynamic therapy is also used. This treatment is done every 3 or 4 months. It involves an injection of a light-sensitive medicine called verteporfin, which spreads through the body's blood circulation system. A laser is used to send a microscopic beam of light through the eye's lens. When the light from the laser reaches the medicine in the blood vessels, it reacts to destroy the unwanted blood vessels. The dose needs to be at a level that ensures the retina itself is not damaged.

In order to weigh the pros and cons of this treatment, researchers from the Cochrane Collaboration searched and systematically analyzed all trials of photodynamic therapy. They found 2 trials involving almost 1,000 people with neovascular (wet) AMD. Both the trials were sponsored by the product's manufacturer.

According to these trials, photodynamic therapy cannot completely stop, but can slow down the progress of vision loss for some people. From the trials it was possible to

calculate that after two years, without treatment, 64 out of every 100 people with wet AMD had a noticeable loss of vision. But for people who had 5 sessions of photodynamic therapy over those 2 years, sight was worse in 50. In other words: about 14 out of every 100 people (14%) benefited from the treatment.

The trials also provide some information about adverse effects. For about 2 out of every 100 people in the trials, verteporfin treatment caused new sight problems (2%). About 2 out of every 100 people complained of temporary backache (2%). Important: because sunlight can also activate the medicine in the skin, people need to avoid direct sunlight for several days after treatment. Some trial participants experienced sunburn.

The trials also show that this therapy cannot reverse vision loss that has already happened. According to the researchers, this means that photodynamic therapy is more suitable for early AMD, when there has not been a lot of damage to vision. In Germany, the costs of photodynamic therapy for people who have wet AMD are covered by health insurance.

Glossary

Cochrane Collaboration

The Cochrane Collaboration is an international network of thousands of researchers and others. They work together in teams called Cochrane Review Groups to answer questions about health care by doing systematic reviews of evidence. To achieve this, the members of the Collaboration have developed systems and methods for systematically finding and analysing the results of trials of health care interventions. The goal of the Cochrane Collaboration is to help patients, health care practitioners and others make more informed decisions about health care. You can read more about the Cochrane Collaboration at their website.

age-related macular degeneration (AMD)

Age-related macular degeneration (AMD) is the abbreviation for age-related macular degeneration. In industrialized countries, this disease is the most common cause of sight loss in old people. Patients lose their “central vision”, which means that they lose precisely the part of the sight that in healthy eyes is responsible for the sharpest and most detailed vision. This loss of vision is caused by a destruction of the central part of the retina, called macula. There are two types of AMD: “Dry” AMD is characterized by small scars and deposits (drusen). “Wet” AMD is caused by new blood vessels growing underneath the retina and lifting it. For this reason, doctors may also call this condition “neovascular AMD”. These vessels may leak, allowing blood or fluids to seep into the retina and to damage the cells.

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retina

The retina lines the back of the eye, and the lens projects images onto it. The retina is sensitive to light. It helps us see fine details, contrasts and colours. The retina captures the images focused by the lens and communicates them through nerves to the brain.

macula

The macula lies in the middle of the retina. It is the centre of the visual field. There are sensory cells called rods and cones. Light sensory cells are particularly concentrated in the macula. This makes it responsible for the most detailed part of our vision, and most of the ability to see colours. The messages from the nerves are sent from here to the brain like images.

lens

The lens of the eye lies right behind the pupil. It focuses light onto the retina.

Sources

Wormald R, Evans J, Smeeth L, Henshaw K. Photodynamic therapy for neovascular age-related macular degeneration. *Cochrane Database of Systematic Reviews*: Version 2007, Issue 3. CD002030 [Cochrane summary (URL: <http://onlinelibrary.wiley.com/o/cochrane/clsysrev/articles/CD002030/frame.html>)]

The German Institute for Quality and Efficiency in Health Care (IQWiG)

The German Institute for Quality and Efficiency in Health Care (IQWiG) was established by legislation to provide evaluations of the effectiveness, quality and efficiency of healthcare services. This includes the assessment of medicines as well as the publication of health information for consumers and patients.

Evidence basis of our health information

Our information is based primarily on systematic reviews of the effects of health care. Systematic reviews are necessary to gain an objective picture of health care. In order to do this, a clear question is formulated. Researchers then find all the relevant studies that could answer this question. They then evaluate those studies.

You can find a list of the evidence and other scientific literature on which this information is based at [**www.informedhealthonline.org**](http://www.informedhealthonline.org)

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