

REMODELLING THE EYE – latest developments in preventing blindness

At the Bristol Eye Hospital, in the South West of England, researchers from the University of Bristol have made an exciting discovery that could result in ‘remodelling’ cells in the eye. This could have a major impact on eye damage that results from disease of the retina.

For most of us, the first thing we think of when considering our perception of the world around us, is our sight. So any impairment of sight or damage to the eyes can be particularly traumatic. A common cause of blindness results from disease in the retina.

In the brain, stem cells – or neural progenitor cells as they are also known – can be ‘switched on’ to generate a range of cell types required to repair damage to the brain. But although the retina consists of neural (nerve) tissue that is similar to the brain, it has always been understood that it does not contain progenitor cells that could be made to help repair the eye.

Professor Andrew Dick, Head of Bristol University’s Division of Ophthalmology, found this difficult to accept and, as a consequence, he and his research team have recently reported the first evidence of progenitor cells in the retina. This is an extremely important landmark that might ultimately lead to a whole new area of treatment for retinal disease.

Already they have a research programme that has been able to grow progenitor cells from biopsies of human retina. They are now looking at what conditions are required to turn them into various cell types such as nerve cells or photo receptor cells. If they can understand that, then they are well on the way to controlling eye disease by helping the injured retina to restore itself. END

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