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Birmingham gets set to turn orange for eye research

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People who suffer from a rare but debilitating eye condition could have their chances of going blind reduced, thanks to a pioneering new test developed by a University of Birmingham researcher who has been given a top award by a sight charity for the work.

And this week, the charity, Fight for Sight, will strengthen its links with the University of Birmingham, where it funds several research projects, when it holds its fundraising Carrots NightWalk at the University.

Geraint Williams, a clinical lecturer in ophthalmology at Birmingham, was given the Fight for Sight Award after he developed the test as a way of detecting inflammation on the surface of the eye caused by Ocular Mucous Membrane Pemphigoid (MMP) – an autoimmune disorder which attacks the wet surfaces of the body, including the conjunctiva which lines the eyes. The disorder is characterised by inflammation and blistering that affect mucous membranes including the eye, resulting in scarring which can lead to blindness.

Mr Williams discovered that neutrophils, a type of white blood cell, have a significant role in promoting scarring in people suffering from the disease, by developing a method of testing for these cells and combining this with monitoring of the scarring. The test involves applying sterile filter papers to the conjunctiva to remove cells from the surface before running them through a flow cytometer, to test for an elevation in neutrophils. This is the first non-invasive means of detecting inflammation as a result of Ocular MMP.

The test may be an important step forward for treatment of the disease – which needs to be controlled with powerful drugs to dampen the immune system and prevent blindness by scarring. The difficulty arises because the inflammation is not always visible to a doctor or optician, who have to use the amount of inflammation as an indicator of the severity of the disease. However, severe scarring can take place without much apparent inflammation, meaning the condition can be missed until it is too late.

Mr Williams said: “Many of our patients with ocular MMP require aggressive treatment to prevent inflammation and scarring of the surface of their eyes. Deciding when to increase treatment is challenging, as we cannot accurately judge when the eyes are truly inflamed.

“Our research demonstrated that neutrophils could be detected on the ocular surface, even if the eye looks clinically un-inflamed, by a method called impression cytology and flow cytometry. Neutrophils are increased in patients who go on to develop scarring, suggesting we may be able to detect ocular inflammation in MMP, by a non-invasive and painless means. This could provide a better way of monitoring and targeting treatment for this condition.”

On Friday (20 September), Fight for Sight, which provides funding for several important research projects at the University of Birmingham’s Centre for Translational Inflammation Research in the Queen Elizabeth Hospital, as well as the Birmingham and Midland Eye Centre at City Hospital, will hold the fundraising Carrots NightWalk. The walk coincides with National Eye Health Week, and will see Birmingham’s streets paved with orange, as supporters are encouraged to embrace the theme and dress up as carrots for the 6 mile or 15 mile route walks.

The walk will start and finish at the University – while the University clock tower, known as Old Joe, will be lit up orange to mark the event. The shorter route will start at 7pm with the 15 mile starting later at 11pm.

Dr John Curnow, a Senior Lecturer at the University of Birmingham , has welcome the NightWalk to Birmingham and urged people to get behind the cause to help continue groundbreaking work in the city.

He said: "We are delighted to be able to host the Carrots NightWalk in Birmingham and raise money for the charity which supports a number of projects here.

“Our work is focused on understanding the immune system in the eye and why it goes wrong in inflammatory eye diseases. If we can understand this, we and others will be better placed to design treatments that are more targeted, more effective and with fewer side effects. This is an exciting time for us with major progress on a number of key projects.”

To register for your Carrots NightWalk place and help to fund important work in ophthalmology in Birmingham, please visit www.fightforsight.org.uk/carrots or call 0207 264 3900.

Notes to editors

Geraint Williams and Dr John Curnow are available for interview. Contact **Kara Bradley (mailto:k.j.bradley@bham.ac.uk)** , University of Birmingham press office, 0121 414 5134 or 07789 921163 for more information.

The Carrots NightWalk is an opportunity for charities to come together and Fight for Sight is working in collaboration with; RP Fighting Blindness, International Glaucoma Association, Nystagmus Network, Childhood Eye Cancer Trust, PMRGCAUK (Polymyalgia Rheumatica and Giant Cell Arteritis UK) Birdshot Uveitis Society, Uveitis Information Group, British Thyroid Foundation and Thyroid Eye Disease Charitable Trust plus many others.

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