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Sir,
Patient pathways for macular disease: what will the new optometrist with special interest achieve?

In their article, Ellis *et al*¹ explore the economical and philosophical dilemma of screening for neovascular age-related macular degeneration, or choroidal neovascular membranes (CNV). Although these may be important considerations for those implementing such screening programmes, the complexities of such considerations are of little importance to those who have the disease. Their scepticism regarding the cost effectiveness of such a programme centred purely around community optometrists is, however, valid. There are currently little published data on different CNV screening methods and clearly the ability to implement effective screening will depend on the local health care architecture. Current methods of detecting CNV include periodic fundal examination, Amsler chart distortion, the preferential hyperacuity perimeter,^{2,3} and reporting of symptoms by the patient. Of these, fundal examination by a medical retina specialist + / – fluorescein angiography is the most accurate, but there are huge time constraints on such highly trained individuals working within the NHS system. With a proven effective treatment already available, and promising new treatments on the horizon, it would seem that efficient, cost effective detection of the disease is appropriate.

We recently carried out a prospective study in the Ophthalmology Department of St James's University hospital, Leeds, West Yorkshire, looking at a novel, fast-track assessment service for the refinement of suspected CNV referrals. The primary aim of the study was to determine whether referrals of suspected CNV from community optometrists could be refined by a nurse and photographer team within the department so as to

detect those patients needing urgent intervention by a medical retina specialist. Based on the ophthalmic history and stereoscopic fundus photography, fluorescein angiography was performed if CNV was suspected by the presence of exudation, haemorrhage, and/or elevation of the macula. All referrals and images were subsequently reviewed by a medical retina specialist. The outcome of this review was used as a gold standard, against which the accuracy of the initial referral and of the novel fast-track assessment and refinement service was determined. In the study, 50 consecutive patients referred with suspected CNV by their optometrist, mainly using Amsler chart distortion as the marker of disease, were assessed. Of these 21 patients (42%) had neovascular AMD of whom 19 patients had CNV and two patients had retinal angiomatous proliferations.

This represented a very high false-positive referral rate, which clearly could have implications both in terms of health-care economics and the timely treatment for true positive cases. Where fundal abnormalities were seen by the optometrist the specificity rose from 0 to 41%, but the sensitivity fell to 71%. Information regarding the true false-negative rate among community optometrists was not available. In contrast, the novel fast-track assessment and refinement service demonstrated a specificity and sensitivity of 96 and 90%, respectively. This was achieved with the use of presently available resources, incurring no additional costs and meant those with CNV requiring treatment were seen by a medical retina specialist in a mean of 6 days.

The above data highlight the fact that community optometrists appear to be over-reliant on an abnormal Amsler chart to diagnose neovascular ARMD and may lack the knowledge or confidence to rely on fundus examination instead. Some refinement process is necessary to ensure that patients who may benefit from treatment can be seen quickly, without overloading a medical retina service with inappropriate urgent referrals. Such a refinement process could involve specialist optometrists in the community or in hospital. Alternatively, it may involve ophthalmologists in training⁴ (a recently published article looking at the use of nonstereo digital fundus photographs by ophthalmic interns, for the detection of CNV, found a mean specificity and sensitivity of 85.7 and 78.8%, respectively) or other ophthalmologists. Exactly how this refinement occurs is not important, provided the process has a high sensitivity and specificity and does not induce any additional delay or require additional expenditure given the prevalence of the condition in the UK population.⁵ Our concern about refinement by community optometrists is the imposition of an additional step in the

patient pathway before the patient is seen by a medical retina specialist. This is likely to be a source of additional delay. In the process outlined above, urgent referrals are sent directly to the medical retina specialist and then the refinement is performed using the knowledge and experience of existing staff within the department. The refinement process does not require additional resources as the assessment can usually be scheduled for a time when there is spare capacity. Patients with treatable disease can then be scheduled directly for priority treatment.

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References

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Sir,

Reply to low power transpupillary thermotherapy

We read with great interest the article by AC Hogan and DJ Kilmartin¹ on 'Low power transpupillary thermotherapy' in patients with choroidal neovascularisation (CNV) secondary to age-related macular degeneration (AMD) with great interest. Firstly, we would like to congratulate the authors for highlighting the efficacy of TTT in treatment of patients with CNV who are ineligible for photodynamic therapy while stabilising vision. However, there are a few issues that we would like them to clarify pertaining to their article.

In the materials and methods, they have not mentioned the time interval between fluorescein angiogram and time of treatment. In the low power group of patients, it has not been mentioned as to how they arrived at the required power. Was there any use of a test spot? If so, where was the preferred site of the test spot? In our practice, we generally fire a test shot outside the vascular arcades with the end point being a very faint greying of the retina. If there is any whitening of the retina noted before the end of 1 min, the power is lowered in steps of 100 MW till there is no reaction or a very faint greying. This is in accordance with the method described by Reichel *et al*² and Newsom *et al*³ in their previous studies. Did they treat patients at a subthreshold level such that no end reaction was noted at all? If so, how did they arrive at this end point? What was the difference in the end points between standard power and low power transpupillary thermotherapy? Did the presence of serous elevation and subretinal haemorrhage need increase in power? In our practice, we have noted that there is a need to slightly increase the power when there is increased serous elevation and subretinal haemorrhage. Was the power/retinal diameter coefficient the same for all the patients treated in each group?

In our practice in the Indian eyes, we have noted that titration of the required laser power is dependent on the pigmentation of the choroidal layer which is more in the Asian eyes while compared to the Caucasian eyes. More the pigment, lesser the power required. We generally use power in the range 200–600 MW for almost all of our patients with the end point being a very faint greying of the retina at the end of treatment duration of 1 min. The importance of ocular pigmentation in this modality of treatment has been stressed by Auer *et al*.⁴ They reported choroidal atrophy in five of 32 eyes that underwent TTT in pigmented individuals. Similar effects have been shown in animal models.⁵ We feel that titration of power is dependant on the level of pigmentation of the choroid and