Sir,

**Determination of seasonal allergic conjunctivitis variation using internet search engine data**

A common and potentially debilitating disease, seasonal allergic rhinoconjunctivitis (SAR) can greatly affect the quality of life and is associated with lost productivity.[1] Many sufferers are at the milder end of the disease spectrum and 'fly under the radar' of health services. Consequently, the epidemiology of seasonal allergic conjunctivitis has been difficult to study without expensive large-scale health surveys.[2] Knowledge of the likely timing of local SAR activity peaks is useful at a number of levels. It can help in workforce planning and training. It also allows optimal timing of the use of anti-allergy treatments such as topical mast cell stabilisers, which may take several weeks to have maximal effect. Here we use a validated method of identifying periods of high disease activity to describe the seasonal pattern of SAR in the United Kingdom.

Analysis of internet search engine activity has been used to identify outbreaks of seasonal influenza.[3] We searched the Google trends application (Google, Mountain View, CA, USA) for the terms 'hay fever' and 'hayfever', limited to the United Kingdom and the months of January 2008 through December 2010 (http://www.google.com/trends (accessed 1 February 2011)). The combined results demonstrate a consistent pattern of online search engine activity (Figure 1). No search activity is seen during Winter. Searches begin in Spring, with a small peak in the search volume index in late April/early May and a larger peak in mid-June. The smaller peak occurs during the peak tree pollen season (eg, birch), while the larger peak occurs during the peak grass pollen season.

We acknowledge that this method is limited by the facts that the study population excludes those without internet access and that the data are from a single search engine, introducing a degree of bias. Further inaccuracy may, in theory, arise from any significant delay between symptom onset and internet search by the sufferer. However, we have previously demonstrated that such analysis is as effective as a large-scale cross-sectional epidemiological study in identifying the peak seasonal activity of SAR[4] and feel that this inadvertent mass collaboration provides useful information as to the timing of peak symptoms of allergic rhinoconjunctivitis in the United Kingdom.

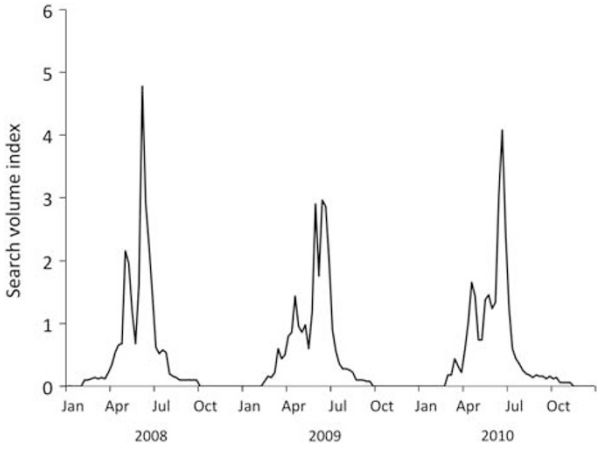


**Figure 1** Online search-engine-combined activity for 'hay fever' and 'hayfever' from 2008 to 2010 in the United Kingdom, using the Google search engine. The scale on the *y* axis compares the activity with that at a fixed point in time.

**Conflict of interest**

The authors declare no conflict of interest.

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Sir,

**Bevacizumab and type 1 idiopathic macular telangiectasia**

In reply to Takayama *et al*,[1] and to further support findings of Gamulescu *et al*,[2] we wish to report a case of type 1 idiopathic macular telangiectasia (IMT) successfully treated with intravitreal bevazinumab.

***Case report***

A 76-year-old man with hypertension and ischaemic heart disease came with painless, progressive blurring of vision in the right eye for 2 months. His best-corrected visual acuity was 6/60. There was macular oedema with underlying microaneurysms and hard exudates. Cystoid macular oedema was seen on optical coherence tomography (OCT). Fundus fluorescent angiography (FFA) showed multiple areas of telangiectasia temporal to the fovea with dye leakage at the mid- and late-phase angiograms (Figures 1a and b).

The patient was diagnosed with chronic cystoid macular oedema secondary to type 1 IMT and was given one dose of intravitreal bevacizumab (1.25 mg per 0.05 ml) to his right eye. Visual acuity improved to 6/36 at one month and a second dose of intravitreal bevacizumab was given. Vision further improved and

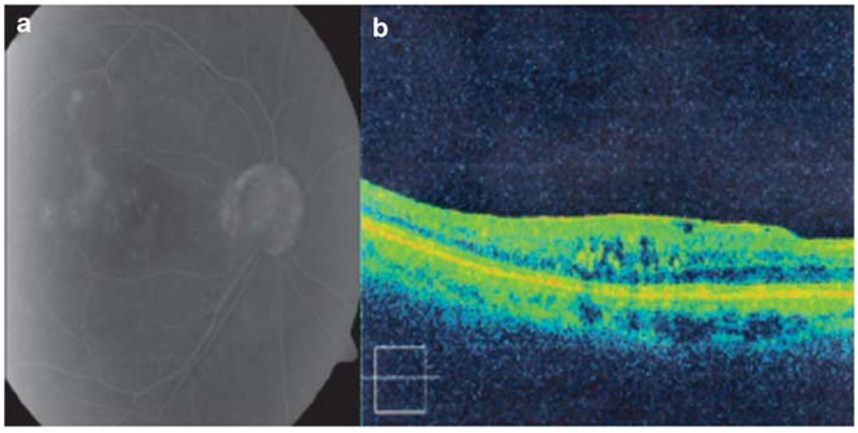


**Figure 1** (a) Late-phase fundus fluorescent angiography (FFA) of the right eye at presentation. (b) OCT of the right eye reveals retinal thickening and multiple cystic spaces in the inner retinal layers.

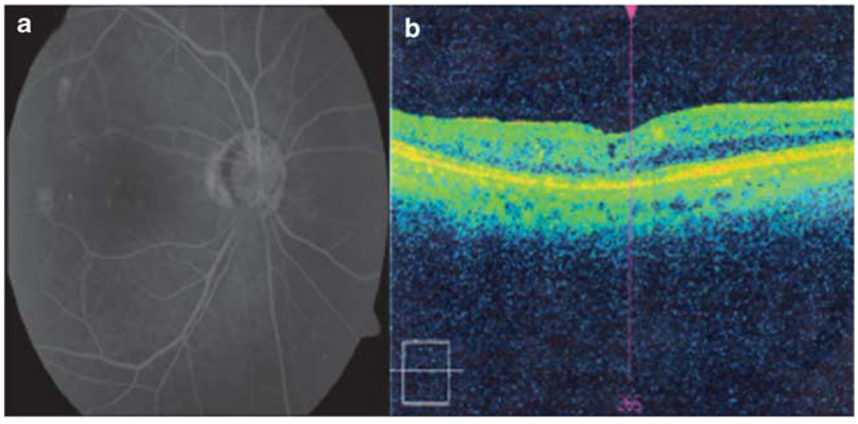


**Figure 2** (a) Late-phase FFA of the right eye at 12 months follow-up. (b) OCT of the right eye shows resolution of inner retinal cysts.

stabilised at 6/12 after the third dose of intravitreal bevacizumab 1 month later. OCT showed resolution of macular oedema and FFA showed cessation of vascular leakage (Figures 2a and b). No further treatment was given and no recurrence was noted at 1 year.

## Comment

There are many documented improvement of visual and anatomical function for the treatment of type 2 IMT with bevacizumab and ranibizumab.[3–5] Little information exists in the treatment of type 1 IMT with anti-VEGF and its number and dose of injections. Recently, Takayama *et al* reported five patients injected with two to three doses of bevacizumab and followed over 12 months. They found that both visual acuity and macular oedema did not improve with the injections except for one case.[1] Our case concurs with Gamalescu *et al*[2] who also reported stability of visual acuity, cessation of leakage seen on FFA, and sustained improvement of macular oedema seen on OCT over a period of 12 months after the injection of intravitreal bevazinumab. This is a second of such reported case.

This case holds promise to the treatment of type 1 IMT with intravitreal bevazinumab. What remains now is the need to have larger case series to confirm the efficacy and dosage of treatment as hitherto, all reported series have been small.

## Conflict of interest

The authors declare no conflict of interest.

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Sir,

**Response to 'Bevacizumab and type 1 idiopathic macular telangiectasia'**

We thank Koay *et al*[1] for their interest in our paper[2] and for presenting an interesting case. We feel that the effectiveness of intravitreal bevacizumab varies among patients with idiopathic macular telangiectasia (MacTel) type 1. In our patients, visual acuity improved only in one of the five eyes at 12 months after the initial treatment. However, Gamulescu *et al*[3] reported that a single intravitreal bevacizumab markedly increased the visual acuity in a MacTel type 1 patient, and Koay *et al*[1] showed a case of MacTel type 1 successfully treated with intravitreal bevacizumab.

One possible reason for this discrepancy may be the different treatment protocol. In our study, the protocol was as follows: all patients were examined for changes in the visual acuity or retinal thickness 2 weeks after treatment; if macular oedema did not reduce, additional treatments were performed one to two times at the discretion of the physician at 4-week intervals. In contrast, Koay *et al*[1] administered a monthly injection of intravitreal bevacizumab three times from the baseline. Thus, a prospective study using a fixed protocol in a larger number of patients is necessary to confirm the efficacy of bevacizumab for the treatment of MacTel type 1.

Recently, He *et al*[4] reported that Coats' disease is associated with an increased intraocular vascular endothelial growth factor (VEGF) level. In their study, intraocular fluid was obtained from three children and one adult diagnosed with Coats' disease. Currently, this disorder is considered as Coats' disease in childhood and is usually referred to as MacTel type 1 when it is diagnosed in an adult, and involves the macula. Further studies on intraocular VEGF level in MacTel type 1 or adult-onset Coats' disease will show whether VEGF has a function in the pathogenesis of MacTel type1.

**Conflict of interest**

The authors declare no conflict of interest.

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Sir,

**Presumed entecavir-induced ocular toxicity**

Entecavir (Baraclude, Bristol-Myers Squibb, Princeton, NJ, USA) is a nucleoside analogue used to treat chronic hepatitis B virus infection.[1] We report a case of presumed ocular toxicity and significant visual loss in a patient with chronic hepatitis B infection treated with entecavir.

***Case report***

A 54-year-old Vietnamese male developed reduced vision sequentially in both eyes over a 2-year period. Past medical history included type 2 diabetes mellitus and chronic hepatitis B. In June 2007, the visual acuity (VA) was 6/9 in both eyes, with mild non-proliferative diabetic retinopathy, and no signs of macular abnormalities. During 2008, the VA worsened to hand movements in the right eye, secondary to subretinal fibrotic bands, tractional macular oedema, and diffuse retinal pigment epithelium (RPE) atrophy (Figure 1a). Fundus fluorescein angiography (FFA) showed abnormal RPE and foveal ischaemia (Figure 1b). At the time, the macular oedema was attributed to tractional elevation from the subretinal bands. Although the visual prognosis was guarded, the patient elected to proceed with right-sided pars plana vitrectomy and removal of subretinal bands to alleviate the macular oedema. The surgery was uncomplicated, although the vision did not improve significantly. Following surgery, Fourier-domain optical coherence tomography (FD-OCT) demonstrated reduction in macular oedema, with diffuse outer retinal atrophy, RPE thickening, and subretinal fluid at the fovea (Figure 1c). All infectious, inflammatory, and autoimmune serological tests were negative.

The patient re-attended in September 2010, with severe left-sided maculopathy and VA 6/48 (Figure 2a). There were no ocular signs of intraocular uveitis or diabetic complications. Indocyanine green angiography was normal. Widefield Optos (Optos, Dunfermline, Scotland) FFA showed loss of the foveal capillary ring and RPE atrophy, confirmed by fundus autofluorescence (Figures 2b and c). FD-OCT demonstrated progressive