

vitreoproliferative retinopathy and proliferative diabetic retinopathy. *Eur J Ophthalmol* 2005; **15**(3): 384–391.

- 8 Schneeberger SA, Hjelmeland LM, Tucker RP, Morse LS. Vascular endothelial growth factor and fibroblast growth factor 5 are colocalized in vascular and avascular epiretinal membranes. *Am J Ophthalmol* 1997; **124**(4): 447–454.

P Shankar¹, SE Bradshaw², A Ang¹, IG Rennie³, DR Snead⁴ and MP Snead¹

¹VitreoRetinal Service, Addenbrooke's Hospital, Cambridge, UK

²Bristol Eye Hospital, Bristol, UK

³Department of Ophthalmology, Royal Hallamshire Hospital, Sheffield, UK

⁴Department of Pathology, Coventry and Warwick University Hospitals, Coventry, UK
E-mail: pallavi_shankar@hotmail.com

No competing interests declared

Eye (2007) **21**, 1003–1004; doi:10.1038/sj.eye.6702800; published online 6 April 2007

Sir,
Retinal pigment epithelial tear following intravitreal injection of bevacizumab (avastin[®]): optical coherence tomography and fluorescein angiographic findings
Bevacizumab is a humanised monoclonal antibody against all isoforms of vascular endothelial growth

factor¹ (VEGF) for the treatment of choroidal neovascularisation.

We report a case with pigment epithelial detachment (PED) that developed a retinal pigment epithelial tear after intravitreal injection of bevacizumab.

This is, to our knowledge, the first report of this finding.

Case report

A 78-year-old fit patient presented with a 3week history of decreased vision and metamorphopsia in her left eye. Best-corrected snellen visual acuity (VA) in this eye was 6/12.

Funduscopy showed subretinal fluid at the fovea with a large PED adjacent and inferior to it (Figure 1a). These changes were secondary to age-related macular degeneration (AMD). A fundus fluorescein angiogram (FFA) confirmed the presence of a subfoveal, minimally classic, choroidal neovascular membrane (CNVM) with a fibro vascular PED (Figure 1b). Optical coherence tomography (OCT) scans confirmed the findings (Figure 1c). All scans were obtained with the Stratus[®] OCT scanner (Humphrey-Zeiss Inc., Dublin, CA, USA).

Photodynamic therapy (PDT) is contraindicated in the presence of a PED,^{2–5} and therefore the patient received an intravitreal injection of 2.5 mg of bevacizumab (Avastin) with informed consent. Three weeks later left eye VA and metamorphopsia remained unchanged, although the patient had developed a retinal pigment epithelial tear inferior to the fovea (Figure 1d) and underwent FFA (Figure 1e) and OCT (Figure 1f).

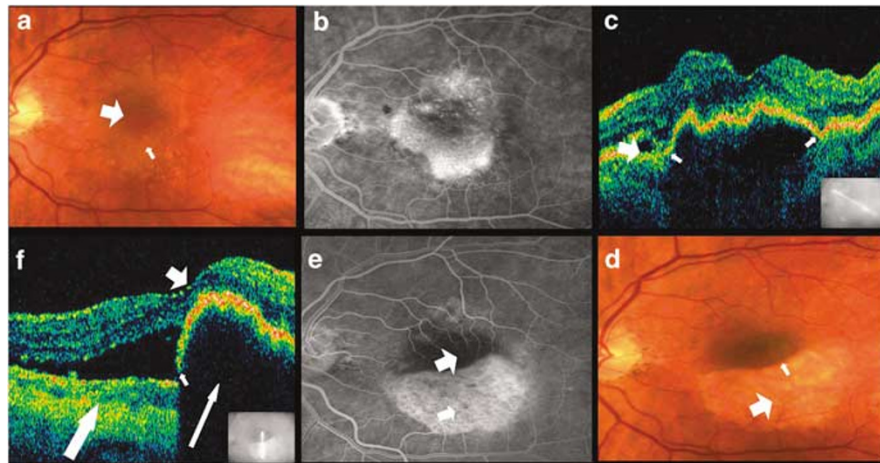


Figure 1 (a) Subretinal fluid at the fovea (hollow arrow) with a large PED adjacent and inferior to it (solid arrow). Best-corrected VA was 6/12. (b) FFA 3 min and 16 s frame showed the presence of a subfoveal, minimally classic CNV with leakage and a fibrovascular PED. (c) A 3 mm single line OCT scan showing subretinal fluid (hollow arrow) and the extent of the PED (between solid arrows). (d) Retinal pigment epithelial tear inferior to the fovea after intravitreal injection of bevacizumab (2.5 mg). (Solid arrow indicates inwardly rolled edge of RPE. Hollow arrow indicates area denuded of RPE.) (e) FFA 21 s frame showed window defect corresponding to the area denuded of RPE (solid arrow) and hypofluorescence secondary blockage of choroidal fluorescence due to multilayered RPE (hollow arrow). (f) A 3 mm single line OCT scan showing fovea still apposed onto the RPE (short hollow arrow) and edge of inwardly rolled of RPE (short solid arrow) with resulting optical shadowing (long solid arrow) and increased reflectivity of outer band extent corresponding to the area denuded of RPE (long hollow arrow). VA remained unchanged as a result of the fovea remaining apposed onto the RPE despite the inferior to the fovea macular neuroretina being elevated and perpetuating the distortion of central vision.

Discussion

There might be the need for a high index of suspicion for retinal pigment epithelium tears in patients who report significant visual deterioration after intravitreal injection of anti-VEGF agents. Though retinal pigment epithelial tear following intravitreal injection of pegaptanib sodium has been reported by Dhalla *et al.*⁶

In view of the fact that the natural history of subfoveal minimally classic choroidal neovascularisation associated with or without fibrovascular PED is considered to be poor with respect to visual outcome and PDT results in this subgroup of patients have been unsatisfactory,⁴ anti-VEGF therapy with bevacizumab was offered to the patient with full-informed consent while vision was still at an acceptable level.

Deterioration of vision did not occur in our patient because the fovea had been spared by the RPE tear and as shown by the OCT scans, it has remained apposed to the RPE (Figure 1f).

This is the first report where a retinal pigment epithelial tear has occurred following an intravitreal injection of bevacizumab. Further studies are required to determine whether specific angiographic subtypes of choroidal neovascularisation are more susceptible to developing retinal pigment epithelium tears after treatment with anti-VEGF agents.

References

- 1 Ferrara N, Hillan KJ, Gerber HP, Novotny W. Discovery and development of bevacizumab, an anti-VEGF antibody for treating cancer. *Nat Rev Drug Discov* 2004; **3**(5): 391–400.
- 2 Lommatzsch A, Radermacher M, Spital G, Pauleikhoff D. Photodynamic therapy of pigment epithelium detachments in AMD (ARVO abstract). *Invest Ophthalmol Vis Sci* 2002; (Suppl): 439.
- 3 Copt RP, Zografos L. Retinal pigment epithelial tear after photodynamic therapy for choroidal neovascularisation caused by age-related macular degeneration (ARVO abstract). *Invest Ophthalmol Vis Sci* 2002; (Suppl): 440.
- 4 Gelisken F, Inhoffen W, Partsch M, Schneider U, Kreissig I. Retinal pigment epithelial tear after photodynamic therapy for choroidal neovascularisation. *Am J Ophthalmol* 2001; **131**: 518–520.
- 5 Pece A, Introini U, Bottoni F, Brancato R. Acute retinal pigment epithelial tear after photodynamic therapy. *Retina* 2001; **21**: 661–665.
- 6 Dhalla MS, Blinder KJ, Tewari A, Hariprasad SM, Apte RS. Retinal pigment epithelial tear following intravitreal pegaptanib sodium. *Am J Ophthalmol* 2006; **141**(4): 752–754.

JP Mathews, A Jalil, MJ Lavin and PE Stanga

Manchester Royal Eye Hospital, Oxford Road,
Manchester, Great Manchester, UK
E-mail: paulo.stanga@cmmc.nhs.uk

Eye (2007) **21**, 1004–1005; doi:10.1038/sj.eye.6702805;
published online 4 May 2007

Sir, Perceptions of patients to extending prescribing to nurses and pharmacists

An editorial, contained with the *British Medical Journal*,¹ suggested that the legislation passed by the Department of Health to extend prescribing rights to nurses and pharmacists, with adequate training, limited to specialist areas, could provide benefits to the patient by easing access to treatment. Current training programmes were deemed to be too short and unsatisfactory for subspeciality areas.

The perceptions of patients, regarding this legislation, have not yet been fully established. Four hundred patients in general and subspeciality clinics were interviewed by a doctor and invited to answer a questionnaire, in Ophthalmology departments in four hospitals. The questionnaire asked, whether patients felt confident in nurses and pharmacists prescribing medications to them, independently, if they were trained in a particular speciality, and if they were not trained in a particular speciality.

If they were not confident, they were asked to provide possible reasons why—whether they felt there was a lack of appropriate medical training for nurses or pharmacists or whether this was due to a lack of familiarity or a lack of supervision of the professionals involved.

Approximately 60% of patients were confident in trained specialist nurses (238/400) and pharmacists (241/400) prescribing medications independently to them. However, patients were mostly uncomfortable with the notion of untrained nurses (328/400, 82%) or pharmacists (340/400, 85%) prescribing medications to them. The reasons given by those patients answering negatively were as follows: 64% (249/400)—lack of appropriate medical training by nurses or pharmacists, 12% (46/400)—lack of familiarity with the prescriber, 6% (24/400)—lack of supervision and 18% (68/400)—all of the above reasons.

In addition, patients were asked whether they brought their medications or a list of medications with them, and were asked whether they understood their diagnosis, 77% correctly named their diagnosis. Only 19% of patients, however, brought a list of medications with them, which raises a concern that nurses or pharmacists may not be aware of other medications used, and hence not able to account for interactions.

In summary, a significant proportion of patients (40%) are not confident that nurses or pharmacists, with specialist training, can prescribe their medication. A larger proportion of patients (85%) do not appear to be confident with these professional groups prescribing, without additional training. This constitutes a major problem as the authority of specialist nurses or pharmacists will undoubtedly be in question.

References

- 1 Avery A, Pringle M. Extending prescribing by UK nurses and pharmacists. *BMJ* 2005; **331**: 1154–1155.

K Qureshi¹, S Kashani², S Robbie³ and N Malik⁴

¹St George's Hospital NHS Trust, London, UK

²Whipps Cross Hospital NHS Trust, London, UK

³Addenbrookes Hospital NHS Trust, Cambridge, UK