Eye (2006) 20, 938–984

www.nature.com/eye

CORRESPONDENCE

Sir,

Vitreoretinal surgery under local anaesthesia: missed fellow eye pathology

We thank Mr West for his useful comments about our paper.[1] We are aware of the different criteria used by vitreoretinal surgeons to treat fellow eye pathology. This has also been alluded to in our paper. In our study, the criteria for significant pathology was based on the policy for treating fellow eyes prevalent in our unit at the time of this study. However, we would still recommend that general anaesthesia be considered if the preoperative examination of the fellow eye was inadequate.

Reference

1 Banerjee S, Tyagi AK, Cottrell DG, Stannard KP. Does vitreoretinal surgery under local anaesthetic result in missed fellow eye pathology? *Eye* 2005; **19**: 371–374.

S Banerjee and AK Tyagi

Department of Ophthalmology, Birmingham and Midland Eye Centre, Sandwell and W Birmingham Hospitals NHS Trust, Birmingham, West Midlands, UK

Correspondence: AK Tyagi, Department of Ophthalmology, Birmingham and Midland Eye Centre, Sandwell and W Birmingham Hospitals NHS Trust, Dudley Road, Birmingham, West Midlands B18 7QU, UK
Tel: +44 121 507 6806;
Fax: +44 121 507 6791.
E-mail: ajaityagi@yahoo.com

Eye (2006) **20,** 938. doi:10.1038/sj.eye.6702040; published online 28 October 2005

Sir,

Reply to Banerjee *et al*

May I thank Banerjee *et al*[1] for their interesting paper pointing out the more thorough examination of fellow eyes allowed under general anaesthetic (GA) in patients who are difficult to examine for various reasons, and that missed retinal pathology is often found compared to a preoperative examination. As they say, symptomatic recent retinal tears are the main indication for prophylaxis and the body of opinion is in favour of treating these. Rarely does a patient have symptomatic pathology in the fellow eye at the time of retinal detachment repair and many would argue about the benefits of treatment of the pathology they found which I presume was asymptomatic. The argument for GA in treatment of retinal detachment must be balanced against the significant advantages of local anaesthetic (LA) over general, especially in the elderly male patients prone to urinary retention following the latter. As in all clinical decisions, a balance has to be struck between the advantages and disadvantages of one means of treatment against another. I would suggest in many PVD detachments easily treated under LA the advantages of local over general anaesthetic outweigh that of finding pathology for which prophylaxis is of no proven benefit.

Also, it would be of interest to know how many of the operated detachments in the study were detachments without PVD, that is, due to round holes or dialysis, where GA would be the norm, and where this applies to fellow eye missed pathology.

Reference

1 Banerjee S, Tyagi AK, Cottrell DG, Stannard KP. Does vitreoretinal surgery under local anaesthetic result in missed fellow eye pathology? *Eye* 2005; **19**: 371–374.

J West

Department of Ophthalmology, Royal Hallamshire Hospital, Glossop Road, Sheffield S10 2JF, UK

Correspondence: J West,
Tel: +44 11 42268863;
Fax: +44 11 42713682.
E-mail: James.West@sth.nhs.uk

Eye (2006) **20,** 938. doi:10.1038/sj.eye.6702036; published online 19 August 2005

Sir,

Visualization of primary uveal melanoma with PET/CT scan

Over the past several years, positron emission tomography (PET) has become an important diagnostic modality for evaluation of solid malignant lesions.[1] In contrast with computerized tomography and magnetic resonance imaging, which detect structural

abnormalities, PET scan relies on altered metabolism within a malignant cell to detect tissue abnormalities. Malignant cells have a higher rate of glucose uptake and therefore show preferential uptake of radiolabeled Fluorine-18 fluorodeoxyglucose (FDG).[2] FDG undergoes spontaneous decay emitting positrons with a half life of 110 min. The anatomic localization of FDG entrapment is improved with sequential imaging of the corresponding areas using noncontrast computerized tomography (CT) and a fused image is generated for diagnostic evaluation.

We performed a pilot study on a consecutive prospective series of 10 patients who were clinically diagnosed with primary uveal melanoma. Each patient underwent whole body FDG-PET/CT scan as part of work up for metastasis prior to treatment on Siemens Biograph16 system (Hoffman Estates, IL, USA). The scan was performed after the patient had been fasting for at least four hours. FDG dose was approximately 10–12 mCi (370–444 MBq) given intravenously. The maximum standardized uptake value (SUV) was measured in cases where the primary tumour could be visualized. CT was carried out at the same setting. Correlation was attempted between tumour size and identification of the tumour by PET/CT scan.

Comment

Overall, the diagnostic accuracy of uveal melanoma is more than 99% based on indirect ophthalmoscopy, ultrasonographic, and angiographic studies.[3] Therefore, the role of ancillary studies such as immunoscintigraphy,[4] CT,[5] and magnetic resonance imaging is used to establish the diagnosis[6] is limited to the atypical cases.

In our series, uveal melanoma could be detected with FDG-PET/CT scan in six of 10 (60%) patients (Figure 1). Each tumour appeared to demonstrate relatively uniform uptake and the intensity of FDG uptake (as measured by maximum SUV) varied between tumours from 3.5 to 8.6. Tumours that were at least 13 mm in diameter, 4.5 mm in height, 125 mm^2 in scleral contact area, or 565 mm^3 volume were visualized (Table 1).

PET evaluation of smaller lesions is limited.[7,8] It is conceivable that additional factors affecting tumour glucose metabolism such as tumour necrosis, intratumoural haemorrhage, and inflammation could influence tumour visualization.[8] As PET/CT scan is a test of metabolic activity of the tissues, it may have a potential in evaluating tumour response following plaque radiotherapy especially in cases with questionable clinical response.[9]

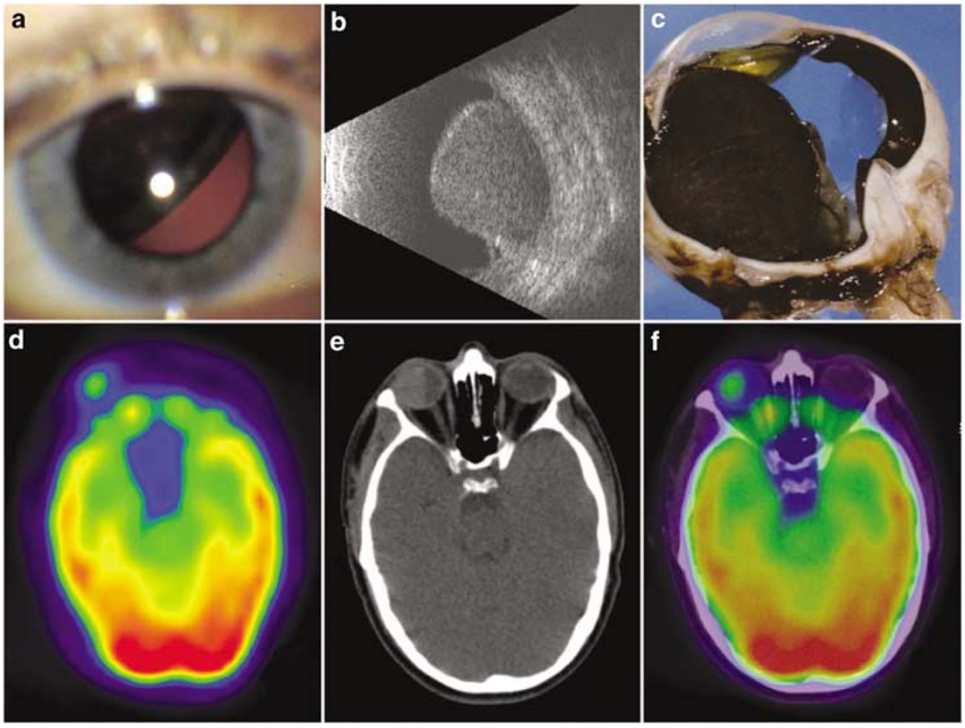

Figure 1 Ophthalmic (a), ultrasonographic (b), and histopathologic (c) appearance of a choroidal melanoma. The tumour (18 mm in base and 13 mm in height) could be visualized by PET scan (d) (maximum SUV of 6.1) and a CT scan (e). Fused image of PET/CT scan localizes hypermetabolic activity to the intraocular tumour (f).

Table 1 Correlation of tumour size and visualization on PET/CT scan[a]

No.	*Size*			*Area mm²* (a) $\pi.\left(\frac{d1+d2}{4}\right)^2$	*Volume mm³* (v) $\frac{2}{3}a.h$	*PET/CT findings*	
	Diameter d1	*Diameter d2*	*Height* h			*Primary (SUV)*	*Metastasis*
1	11	7.5	2.7	67	121	Negative	Absent
2	11	10	6	87	346	Negative	Absent
3	17	15	8	201	1072	Positive (3.45)	Absent
4	11	11	2.5	95	158	Negative	Absent
5	19	18	10	269	1729	Positive (4.25)	Absent
6	18	18	13	254	2205	Positive (6.1)	Absent
7	18	13	4.5	189	566	Positive (4.01)	Absent
8	16	16	12.5	201	1676	Positive (3.6)	Absent
9	13	12	8	125	655	Positive (8.6)	Absent
10	7	6	2.5	33	55	Absent	Absent

SUV: Standardized uptake value.
[a]Richtig E, Langmann G, Mullner K *et al*. Calculated tumour volume as a prognostic parameter for survival in choroidal melanomas. *Eye* 2004; **18**: 619–623.[9]

References

1 Jerusalem G, Hustinx R, Beguin Y, Fillet G. PET scan imaging in oncology. *Eur J Cancer* 2003; **39**: 1525–1534.
2 Gallagher BM, Fowler JS, Gutterson NI, MacGregor RR, Wan CN, Wolf AP. Metabolic trapping as a principle of oradiopharmaceutical design: some factors resposible for the biodistribution of [18F] 2-deoxy-2-fluoro-D-glucose. *J Nucl Med* 1978; **19**: 1154–1161.
3 COMS Group. Accuracy of diagnosis of choroidal melanomas in the Collaborative Ocular Melanoma Study. COMS report no. 1. *Arch Ophthalmol* 1990; **108**: 1268–1273.
4 Bomanji J, Hungerford JL, Granowska M, Britton KE. Radioimmunoscintigraphy of ocular melanoma with 99mTc labelled cutaneous melanoma antibody fragments. *Br J Ophthalmol* 1987; **71**: 651–658.
5 Augsburger JJ, Peyster RG, Markoe AM, Guillet EG, Shields JA, Haskin ME. Computed tomography of posterior uveal melanomas. *Arch Ophthalmol* 1987; **105**: 1512–1516.
6 De Potter P, Flanders AE, Shields JA, Shields CL, Gonzales CF, Rao VM. The role of fat-suppression technique and gadopentetate dimeglumine in magnetic resonance imaging evaluation of intraocular tumors and simulating lesions. *Arch Ophthalmol* 1994; **112**: 340–348.
7 Spraul CW, Lang GE, Lang GK. Value of positron emission tomography in the diagnosis of malignant ocular tumors. *Ophthalmologica* 2001; **215**: 163–168.
8 Modorati G, Lucignani G, Landoni C, Freschi M, Trabucchi G, Fazio F *et al*. Glucose metabolism and pathological findings in uveal melanoma: preliminary results. *Nucl Med Commun* 1996; **17**: 1052–1056.
9 Pe'er J, Stefani FH, Seregard S, Kivela T, Lommatzsch P, Prause JU *et al*. Cell proliferation activity in posterior uveal melanoma after Ru-106 brachytherapy: an EORTC ocular oncology group study. *Br J Ophthalmol* 2001; **85**: 1208–1212.

AD Singh, P Bhatnagar and B Bybel

Department of Ophthalmic Oncology, Cole Eye Institute and Department of Molecular and Functional Imaging, Cleveland Clinic Foundation, Cleveland, OH, USA

Correspondence: AD Singh,
Department of Ophthalmic Oncology,
Cole Eye Institute,
Cleveland Clinic Foundation,
9500 Euclid Avenue,
Cleveland, OH 44195, USA
Tel: +1 216 445 9479;
Fax: +1 216 445 2226.
E-mail: singha@ccf.org

Eye (2006) **20,** 938–940. doi:10.1038/sj.eye.6702044;
published online 5 August 2005

Sir,

Beware of the bottle

We report a case of chemical injury to an eye shortly following cataract extraction due to inadvertent instillation of flea drops.

At 3 days following uneventful cataract surgery, a lady of 76 years presented to the emergency eye clinic with a painful left eye and visual acuity of 6/60 (day one 6/12). Questioning revealed that her eye had become increasingly painful following repeated instillation of Good Girl Flea Repellent drops by her daughter instead of the G Maxitrol supplied by the hospital. Her daughter, who had not been wearing her reading glasses, was unable to read the labels on the bottles which were of