Sir,

Retinal tear following closed trauma with a toy balloon
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It has previously been identified that party balloons can cause significant anterior segment injury.[1] In the following case, a potentially vision-threatening posterior segment injury was caused by a commonly available toy balloon in the absence of identifiable anterior segment injury.

Case report

An emmetropic 11-year-old girl with no previous ocular history suffered closed globe trauma to the left eye when she inflated a 'punch balloon' until it burst. She described being struck by the exploding balloon on the temporal side of her left eye. There were no significant symptoms immediately following the injury and medical assistance was not sought. After 2 days, a black line or floater was noted in the nasal visual field of the left eye. The patient was referred directly to the hospital eye service by her optometrist.

On presentation, Snellen visual acuity was 6/5 in the right eye and 6/6 in the left. During dilated funduscopy, five linear retinal tears were visible superotemporally in the equatorial retina. There was a small area of associated retinal haemorrhage with overlying vitreous extension. No subretinal fluid or frank detachment was present (Figure 1). Of note, there was no lid swelling, ecchymosis, corneal abrasion, anterior chamber activity, or iris abnormality visible.

The patient was managed conservatively. During 6 months of follow-up, no complications developed and 6/6 visual acuity was maintained. The vitreous haemorrhage cleared leaving a flat area of chorioretinal scarring.

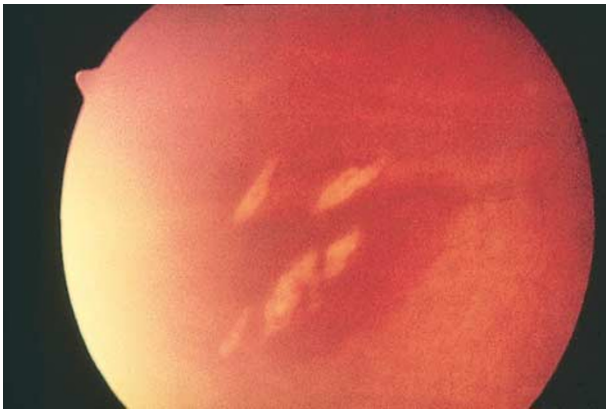

Figure 1 Clinical photograph of the superotemporal fundus showing five linear retinal tears.

Comment

Punch balloons are manufactured in the UK and sold through a number of outlets including one nationwide supermarket chain. They are of a thicker, heavier latex construction than conventional party balloons (16 g per balloon *vs* approximately 5 g per conventional party balloon), and this may well have contributed to our patient's injury. The inflation pressure of these balloons is no higher than conventional, smaller balloons.

There is a small printed warning on the packet that states that adults should inflate these balloons and supervise their use in children under 8 years of age.

From the linear pattern of the chorioretinal tears and their position within the globe, the likely mechanism of injury is an abrupt compression of the eye along the anteroposterior axis with consequent stretching at the equatorial region and vitreous base. In a series of 445 eyes with fundus changes caused by blunt trauma, Atmaca and Yilmaz[2] reported that in those with retinal holes and tears, 40.6% occurred in the superior temporal quadrant and 34.3% were in the equatorial region. This pattern of injury is well described in squash ball[3] and paintball[4] accidents.

Although this injury has not previously been described in relation to toy balloons, the symptoms and the fresh haemorrhage make it extremely unlikely that this finding was an incidental one. This report reinforces the importance of thorough history collection and examination even in apparently minor trauma.

References

1 Francis PJ, Chisholm IH. Ocular trauma from party balloons. *Br J Ophthalmol* 1998; **82**(2): 203.
2 Atmaca LS, Yilmaz M. Changes in the fundus caused by blunt ocular trauma. *Ann Ophthalmol* 1993; **25**: 447–452.
3 Knorr HL, Jonas JB. Retinal detachments by squash ball accidents. *Am J Ophthalmol* 1996; **122**(2): 260–261.
4 Thach AB, Ward TP, Hollifield RD, Dugel PU, Sipperley JO, Marx JL *et al*. Ocular injuries from paintball pellets. *Ophthalmology* 1999; **106**(3): 533–537.

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