Preoperative site marking for eye surgery may be transferred from patient to patient or moved, increasing the potential for wrong site surgery

Wrong site surgery is a preventable serious medical error, which continues to occur.[1 2] The Royal College of Surgeons and the National Patient Safety Agency recommend that patients should confirm the site of surgery and have the site marked preoperatively with an indelible marker.[1 3–5] The mark should be visible through the clear drape once the operative area has been cleaned and draped in theatre. Using a permanent marker pen reduces the risk of the mark being rubbed off accidentally.

We have noticed that during the preoperative ward round, marks may be transferred from one patient's forehead to the bar of the slit lamp, and then to the brow of the next patient (fig 1). This is more apparent in hot weather and is a potentially serious problem because of the risk of operating on the wrong eye. A misplaced mark may provide false reassurance and increase the risk of wrong site surgery unless the full preoperative checklist is adhered to.[1]

Whilst permanent markers are recommended, in practice many surgeons use dry-wipe markers and may use clear tape (3M Transpore™ Surgical Tape, 3M, St. Paul, MN) to reduce the risk of the mark being wiped off (fig 2A). However, both permanent and dry-wipe pen marks may be lifted with the tape and moved to the fellow eye (fig 2A,B). If a permanent marker is used, more of the original mark is left behind.

COMMENT

We suggest that to reduce the risk of mark transfer, patients should be marked after slit-lamp examination; that the brow band of the slit lamp should be wiped clean between cases; that only permanent markers should be used; and that marks should not be covered with tape. If a patient arrives in theatre with a faded mark (fig 1C) the surgeon should re-mark the eye.

Other options may include marking the cheek rather than the brow (although this may make it difficult to extend the mark into the field visible through the drape) and marking with a horizontal line just above the eyebrow, which is unlikely to impinge on the slit lamp bar.

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Competing interests: None.

Accepted 22 April 2007

Br J Ophthalmol 2008;**92**:295. doi:10.1136/bjo.2007.121749

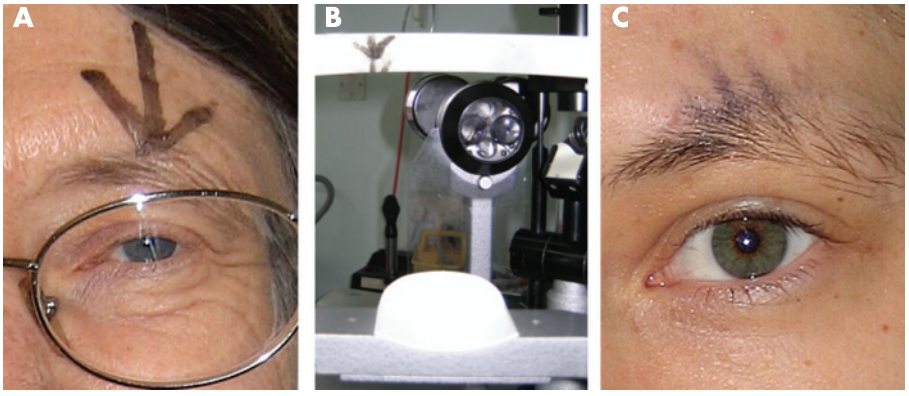

Figure 1 (A) The eye to be operated on is marked with a permanent marker. (b) During the preoperative examination, the mark is transferred to the brow band of the slit lamp. (C) The mark is transferred to the brow of the next patient, with a risk of wrong eye surgery.

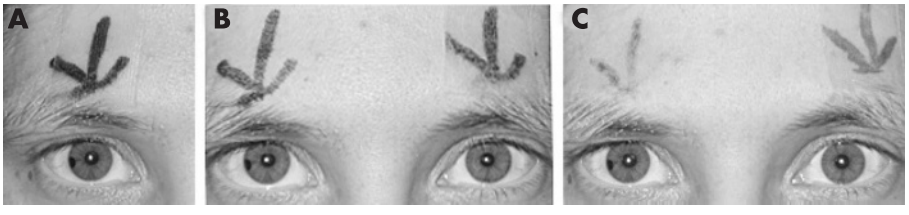

Figure 2 (A) Transparent tape is used here to prevent a mark from being rubbed out or transferred. (B) A mark from a permanent marker is transferred if the protecting tape is lifted and moved. (C) A mark from a dry-wipe pen is almost completely removed when the tape is moved.

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Why atropine drops *should* be used in Down syndrome

It is often stated that atropine drops should not be used, or are contraindicated, in children with Down syndrome.[1 2] Some authors have stated that the mydriatic and cycloplegic effects are overly prolonged,[3] whereas others have expressed apprehension regarding potential systemic toxicity.[2 4] No evidence exists, however, to support either of these concerns.

It is plausible that previous investigators[4] might have believed that the allegedly prolonged cycloplegic effect of atropine in Down syndrome patients could lead to permanent disuse atrophy of an already hypoplastic iris and ciliary body musculature with consequent permanent loss of accommodative ability. However, by 1971, the allegedly prolonged mydriatic effect of atropine in patients with Down syndrome had already been refuted.[5 6] Moreover, since 1993, it has been understood that accommodation is inherently grossly diminished congenitally in approximately 80% of children with Down syndrome.[7] The noted lack of an accommodative ability is, after all, not a pharmacologically induced trait.

Given the doses utilised in ophthalmic applications, concerns of systemic atropine toxicity are also unwarranted.[5 6] One per cent ophthalmic solution contains 0.5 mg of atropine per drop, and 20 drops of atropine absorbed simultaneously via the conjunctiva would be necessary to reach the potential lethal dose for children.[6 8] Since atropine, moreover, is rapidly eliminated from the bloodstream within 2–5 h,[8] it is difficult to imagine situations in which an ophthalmic application could lead to toxic levels. Indeed, many ophthalmologists, including ourselves, have often used atropine in Down syndrome patients without any untoward effects.

The poor accommodative ability in children with Down syndrome, particularly if not corrected with bifocals, predisposes them to develop a hypoaccommodative convergence excess form of esotropia,[9 10] along with a failure of emmetropisation resulting in higher incidences of hyperopia,

blurred vision at all distances, various forms of strabismus and amblyopia. Due to the minimal psychotropic effects of atropine as compared to cyclopentolate, the accurate assessment of the refractive errors in such mentally impaired children may in fact be facilitated by atropine mydriasis and cycloplegia. In the treatment of ambylopia, moreover, optical and atropine penalisation methods can sometimes be more effective than attempted patching regimens.

Current teaching should reflect the fact that, far from being avoided, the use of atropine drops for ophthalmic purposes should be encouraged in children with Down syndrome.

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Competing interests: None declared.

Accepted 25 April 2007

Br J Ophthalmol 2008;**92**:295–296. doi:10.1136/bjo.2007.122457

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B cell monoclonality of intraocular lymphoma and breast lymphoma

B cell monoclonal gene rearrangements have been reported in several cases of primary intraocular lymphoma and primary central nervous system lymphomas. Such molecular analysis has been performed on only one case of a primary testicular and a metastatic intraocular lymphoma. However, the gene rearrangements differed at the two sites. We present a case in which B cell monoclonality was found in an intraocular lymphoma and a primary breast lymphoma. Intraocular non-Hodgkin's lymphomas are uncommon malignant tumours derived from two types of lymphomas; a primary central nervous system lymphoma (PCNSL) and a systemic lymphoma. Compared with primary intraocular lymphomas (PIOLs), the prevalence of metastatic systemic lymphomas is much lower.[1 2] The diagnosis of intraocular lymphomas remains problematic because of the high number of false-negative diagnoses made from analysis of vitrectomy specimens. Molecular analysis of the immunoglobulin heavy chain (IgH) gene

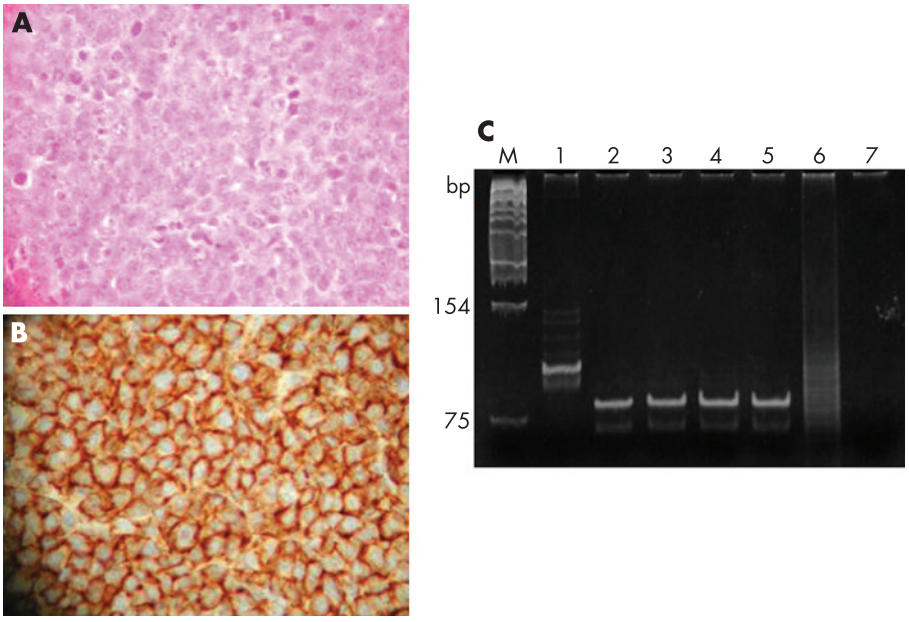

Figure 1 Histopathological and polymerase chain reaction examination of breast and intraocular lymphomas. (A) Histopathological examination of neoplastic lymphocytes in the breast lymphoma (haematoxylin–eosin, original magnification ×400). The specimen shows an infiltration of diffuse large cells with oval nucleoli. (B) Immunohistochemical stain with CD20 (original magnification ×400). Results show that the surface of almost all abnormal cells express CD20. (C) Polymerase chain reaction (PCR) analysis of paraffin-embedded sections (breast) and pellets from the vitreous. Seminested PCR for the immunoglobulin heavy chain run on 3% agarose gel stained with ethidium bromide (lane M: DNA molecular weight marker (pBR322/*Hinf*I digest); lane 1: positive control (Raji cell line); lanes 2–4: breast; lane 5: vitreous specimen; lane 6: normal control (healthy donor); lane 7: no template control) There are identical patterns of IgH gene rearrangement at the CDR3 sites between the breast and intraocular lymphomas.

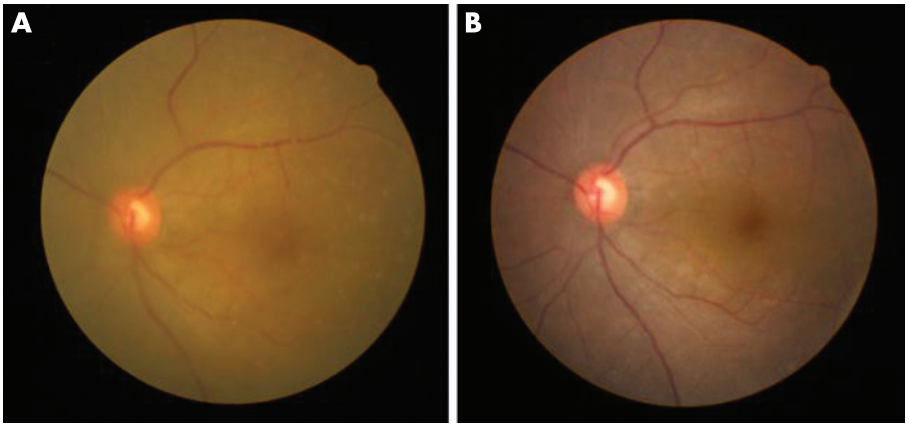

Figure 2 Fundus photograph before and after treatment. (A) Photograph of the left eye showing hazy fundus due to the diffuse vitreous opacity. Many small yellowish-white infiltrates can be seen at the posterior pole and temporal retina. (B) Photograph of same eye 4 months after surgery and 3 months after irradiation. The chorioretinal lesions are not present or have been transformed to the scar lesions.

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Br J Ophthalmol 2008 92: 295-296
doi: 10.1136/bjo.2007.122457

Notes