Difficulties in Screening for Retinoblastoma

The early detection of retinoblastomas in children is desirable from a therapeutic perspective and may have both sight-saving and lifesaving implications. Some have recommended that all infants undergo indirect ophthalmoscopy in the nursery prior to discharge from the hospital. This approach is not cost-effective because tumors may not be present at birth and may first become manifest in the first year of life. Nevertheless, a method of screening young children would be of great benefit. Pediatricians are routinely instructed in the technique of observing a red fundus reflex using the direct ophthalmoscope. Detection of an abnormally “white” retinal reflex or leukocoria is often diagnostic of a retinoblastoma. Many find this technique difficult to perform and obtain equivocal results.

In this issue of the *Journal of Pediatric Ophthalmology & Strabismus*, Khan and Al-Mesfer report the results of their study of the diagnostic ability of observing a red reflex through pharmacologically dilated pupils using a direct ophthalmoscope. The observer was a pediatric ophthalmologist. Unfortunately, in 38% of patients with known pathology, the retinoblastoma was not detected. This casts doubt on the usefulness of the screening technique. The authors correctly point out that the use of dilating and cycloplegic agents is not always safe in infants and young children. In addition, they believe that a “normal” red reflex might provide a false sense of security for both the parents and the pediatrician.

Red reflex testing, as recommended by the American Academy of Pediatrics (*Pediatrics* 2002;109:980-981), remains valuable for detecting ocular pathology in children and is particularly useful for detecting cataracts. The limitations of this screening technique must be realized, however. It should be no surprise that a child with an initially normal red reflex is found to have a retinal tumor at a later date. This study underlines the difficulty inherent in any screening technique for retinoblastoma.

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