Frequent blinking and eye closing in childhood

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SUMMARY

Frequent blinking and closing one eye by a child, are both common entities causing anxiety to the parents. Various causes could initiate those behaviors, sometimes being chronic. Eye problems are commonly involved. This article reviews all the possible causes creating such symptoms and signs.

Key words: Blinking, eye closing, childhood, tics.

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Many children are referred to a pediatric ophthalmologist either due to frequent blinking or due to keeping an eye close from time to time. Both conditions can cause considerable anxiety to the parents. The presentation could be in the acute clinical setting, intermittent or chronic. In the majority of the cases the diagnosis is evident from the history and a standard ophthalmological examination.

The clinician should ask about associated symptoms and signs, like redness, tearing, discharge, mucus, and clouding of the cornea, indicating an ocular surface disorder. A history of atopy, primary herpes simplex virus infection, past ocular trauma or foreign body exposure is also important.

Asking about the circumstances in which the blinking or unilateral eye closure is most evident, if it is unilateral or bilateral, self limiting or not, the duration and frequency of symptoms, aggravating factors such as bright lights, cold windy weather, stressful situations, and relieving factors, are useful to know. A family history of refractive error, amblyopia, or squint should not be ignored.

Examination tips

- Observation for characteristics of an eye winking or tics (blinking, motor or phonic).
- Correction of any uncorrected refractive error and identification of any binocular anomaly like heterophoria.
- Exclusion of any lid margin malposition, lash abnormalities, lid malfunction, existence of a foreign body, for signs of corneal pathology and corneal anesthesia such as opacity and superficial vascularization.

CAUSES OF FREQUENT BLINKING

1. Tic disorders

Motor tics are sudden brief repetitive stereotyped motor movements involving discrete muscle groups. They could involve one or both eyes and affect the boys more than the girls. In 12% the onset is before the age of 4 years. A positive family history, an obsessive disorder and attention deficit hyperactivity disorder (ADHD) have been implicated. Tics characteristically increase with stress, fatigue, boredom, and anxiety. They reduce with absorption in activities including books, games, and sport. Although tics are voluntarily suppressible, that is for a short period only. Some children with tics also have motor tics such as head shaking, vocal or phonic tics, particularly throat clearing. There is a spectrum of disorders from simple tic to Tourette's syndrome. Tourette's syndrome should be suspected if in addition to motor tics there is a history of vocal tics (including swear words, etc.), motor hyperactivity, impulsivity, and disruptive behavior. These children should be referred to a pediatric Neurologist. It is likely that this spectrum of disorder is determined by genetic susceptibility. However, the majority of children do not require any form of investigation or referral. Parents can be reassured that this common condition invariably resolves spontaneously.

2. Ocular surface disorders

Meibomian gland dysfunction/blepharitis and allergic eye disease are the most common causes of frequent blinking. Rarities such as childhood onset corneal dystrophy or deposits may also present with eye blinking or closure. A specific diagnosis can usually be made on clinical examination. A subtarsal foreign body can be retained for months in a young child causing similar symptoms.

3. Ocular alignment/movement/refraction

Intermittent exotropia and uncorrected refractive errors could also cause excessive blinking in childhood in up to 25% of cases. Unilateral eye closure in bright sunlight is a feature of intermittent exodeviations, but the explanation is uncertain as diplopia is unusual even when the deviation is manifest.

4. Photoreceptor dystrophy

Photoreceptor dystrophies particularly congenital achromatopsia and cone–rod dystrophies could present with photophobia, increased tearing, and excessive blinking.

5. Other potential ocular causes

Opacities in the media

Intraocular inflammation

Ocular myasthenia (*when it is presented with* an isolated unilateral ptosis or flickering lid movements - lid twitches).

Orbicularis oculi myokymia (causing persistent irritating contractions unilaterally. Although it is usually a benign self limiting disorder; if persistent or spreading one should investigate for a dorsal pontine pathology).

Hemifacial spasm (bursts of flickering rapid unilateral eye closure, often involving the ipsilateral mid to lower face and synchronous eyebrow elevation. Infantile or childhood onset is very rare a vascular pathology and intrinsic pontine tumors may be responsible. All these cases should be fully investigated with neuroimaging).

Blink-saccade synkinesis (use of eye blinks to break fixation and initiate saccadic eye movements. It is seen most obviously in ocular motor apraxia).

Tardive dyskinesia (an involuntary dystonic muscle hyperactivity that may develop after long term exposure to neuroleptic drugs).

CAUSES OF ONE EYE CLOSING

Acute causes

Lid - angioneurotic edema, blepharochalasis syndrome, inflamed meibomian cyst, preseptal cellulitis.

Ocular surface - corneal abrasion, conjunctivitis - infective, allergic, or chemical, keratitis - bacterial, viral, or fungal.

Trauma - corneal or subtarsal foreign body, hyphema.

Anterior segment - acute glaucoma, acute uveitis.

Neurological - acute ptosis from myasthenia, oculomotor palsy, migraine.

Sub-acute or chronic causes

Media opacities - cataract, colobomas.

Diplopia - from acute onset strabismus, intermittent exotropia.

Ocular surface - allergic eye disease.

Lid problems - fatiguable ptosis.

Neurological - cyclic oculomotor palsy, myasthenia, Marcus Gunn jaw wink, epilepsy, ophthalmoplegic migraine.

Functional - tic, conversion disorder.[1,2,3,4,5]

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