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The Importance of Clinical Presentation in Children Eye Involvement

[1]Gholamhossein Yaghoubi, [2]Behrouz Heydari, [3]Said Hassan Golboei and [4]Mohammad Ali Yaghoobi

[1]Ophthalmologist, Vitreoretinal Fellowship, Associate Professor of Birjand Medical University
[2]Ophthalmologist, Assistant Professor of Birjand Medical University
[3]Otolaryngologist, Assistant Professor of Birjand Medical University
[4]Resident of Internal Medicine of Mashad Medical University

Abstract: Routine vision screening is important, because many abnormalities are treatable if discovered early and untreated, can lead to vision loss and blindness. This paper describe the importance of screening and clinical presentation of eye involvement in children. This study demonstrates the two children (case 1 & 2) with glob asymmetry that diagnosis was glaucoma. The 3rd case was atopic dermatitis with complain of lacrimation. The 4th case presenting with ear pain and diplopia that biopsy of developing paracervical lymphdenopathy after a longer interval time revealed nasopharyngeal carcinoma. Visual function recovered by prompt treatment of lethal toxic encephalopathy in a nine months child. The final case showed a protruding conjunctival dermolipoma mass without other systemic association. The message of these cases was a practical screening tools. Screening in preschool and school children have a major rule in assessment of certain eye diseases, these cases had notice to other clinical important ophthalmic or systemic presentation which consider these in preschool amblyopia screening also.

Key words: Screening · Eye · Children

INTRODUCTION

While most parents probably assume that vision screenings provided by pediatricians and school nurses are enough, but parents can help to preserve their kids' vision for years to come with a few other preventative measures. The vision screening program Consumer Eyecare and Eyewear Survey revealed that most adults seem to give better protection to their eyes than their children's eyes [1].

Sight is the sense that gathers the most information about our environment. Visual impairment restricts the availability of sensory input, thus interfering with children's emotional, cognitive and physical development. For a better prognosis, ocular disease should be detected and interventions implemented as early as possible [2].

However many approach developed to screen the children eye disease but they are not able of early diagnosis of all ophthalmic problems [3-5].

It is the honorary if the public health program that would provide one examination in a child's life to participate at no cost to the family, no cost to the government and no cost to the health insurance industry [6]. This paper prepared to emphasize that these cases with clinical important ophthalmic or systemic presentation should be consider at least in preschool amblyopia screening.

Cases Presentation: This clinical case series was consisted of 6 patients that attended in Valiaser Hospital during the year 2008 to 2009. The enrolment of these cases was their systemic or interesting ocular presentation. Their ages ranged from 9 months to 16 years. A complete ophthalmic examination in all cases was done by ophthalmologist. The cases followed up and all of medical consultation was done to find the final diagnosis.

Case 1: The first girl aged 12 year-old brought to eye clinic by their parents due to friends warn that their left eye is larger. They have not any history of photophobia, lacrimation or deterioration of vision.

Correspondence Author: Gholamhossein Yaghoobi, Department of Ophthalmology, Birjand Medical University, Valiasr Hospital, Southern Khorasan, Birjand, Iran. Tel: (561) 4443001-9, Fax: (0561) 4445402, E-mail: Yaqubig@yahoo.com.

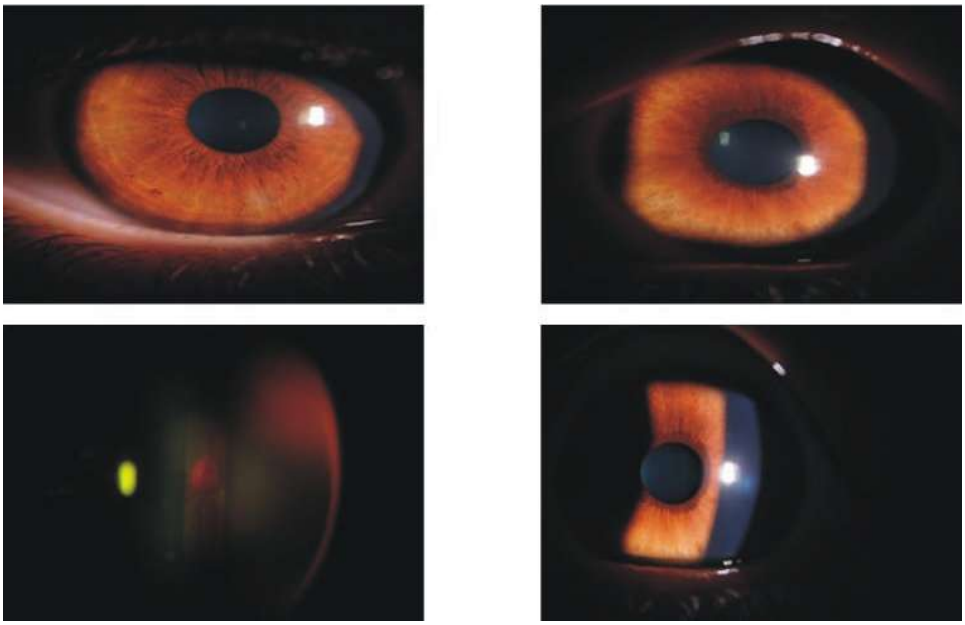

Fig. 1: Right upper and lower Ectropi on uvea, left upper normal iris, left lower optic Disc photograph

On ophthalmic examination visual acuity was 20/20 in both eyes with snellen chart. Intraocular pressure on the first examination was 14 mm Hg in the right and 45 mm Hg in the left eye accompany of melanosis oculi. On funduscopic examination the cup/disc ratio were 0.3 in the right eye and 0.4 in the left eye. (Fig. 1, bottom left). The prominent left eye was associated with extensive hyperplasia of the iris pigment epithelium which overlay the stroma of the iris in an irregular manner but did not reach the angle (Figure 1bottom right).

Associated ocular or systemic features in the patient was not diagnostically significance.The intraocular pressure responded to topical medication including timolol and dorzolamid during of every 3 months of follow-up.

Case 2: The second case age 14 year-old visual acuity was 20/20 in both eyes and Intraocular pressure was 40 mm Hg in the right eye and 13 mm Hg in the left eye. On funduscopic examination the cup/disc ratio were 0.4in the right eye and 0.3 in the left eye. The affected eye was associated with hyperplasia of the iris pigment epithelium which overlay the stroma of the iris in an regular manner that not reach the angle.

This case also have not diagnostically significance associated ocular or systemic problems. The intraocular pressure responded to topical medication including timolol and dorzolamid during of every 3 months of follow-up.

Case 3: An eight year-old boy referred for refractory lacrimation and photophobia and history of probing in infancy indeed of strabismus surgery during his life without relieving their earlier complain.

In ophthalmologic examination the uncorrected visual acuity was 20/100 in both eyes and not improving with correction. Eyelids and extraocular movements were normal with no evidence of ptosis. The reduced red reflex was an indicator of reduced visual acuity. Also Slit-lamp examination showed bilateral corneal haziness and vascularization and posterior subcapsular cataract. (Figure 2).

The intraocular pressure and funduscopic examination was within normal limit. The pediatric consultation was done due to skin scaling that diagnosis was atopic dermatitis.

Case 4: A 14 year old girl complain of diplopia since one year ago. On ophthalmic examination there was not any ocular abnormality except diplopia in left gaze (Figure 3). She has also history of otolaryngology's examination due to unilateral ear pain 4 months ago. The patient admitted in hospital and all of possible work-up including Brain CT-Scan, thromboembolic factors and hematological tests were in normal range and patient discharged without positive finding from neurology ward. The patient came back 4 months later with hoarseness of voice and bilateral cervical lymphadenopathy. Lymph node biopsy showed

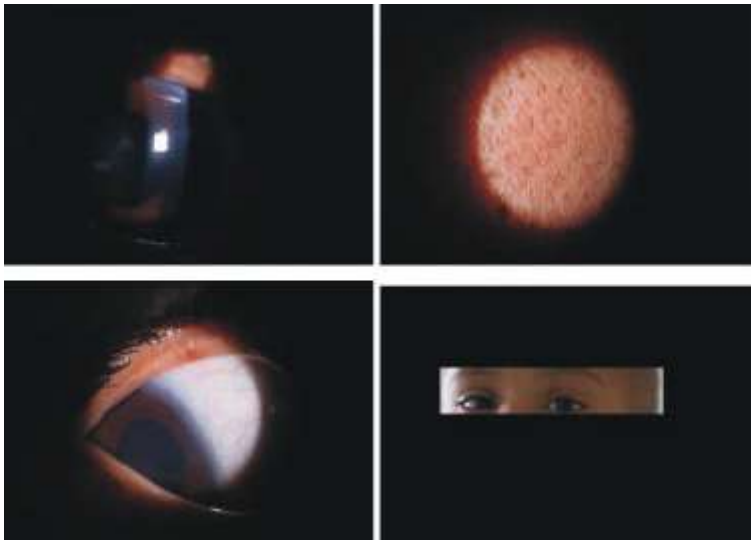

Fig. 2: Right upper skin scale, Left upper posterior cataract. Right lower left esotropia, baldness. Left lower corneal haze and vascul arization

Fig. 3: Right normal gaze. Left 6 nerve paresy

Fig. 4: **Resend in good quality figure 4 caption**

nasopharyngeal carcinoma and again the basal skull Ct-scan and MRI showed the primary site of tumor that the patient underwent surgical procedure and chemotherapy.

Case 5: Ophthalmolgical consultation in a 9 months old age girl in pediatric ward revealed inattention of child to light and other stimulus (Figure 4). The parents did not explain any ophthalmic problem in their child. The pupillary reaction to the light was not brisk and other ophthalmic examination including slit lamp biomicroscopy and funduscopic examination was not associated with ocular pathology. The work-up that was done due to shigellosis gastroenteritis and convulsion in pediatric ward showed hypernatremia, low hemoglobin, low platelet. The Brain Ct-scan in this case was associated

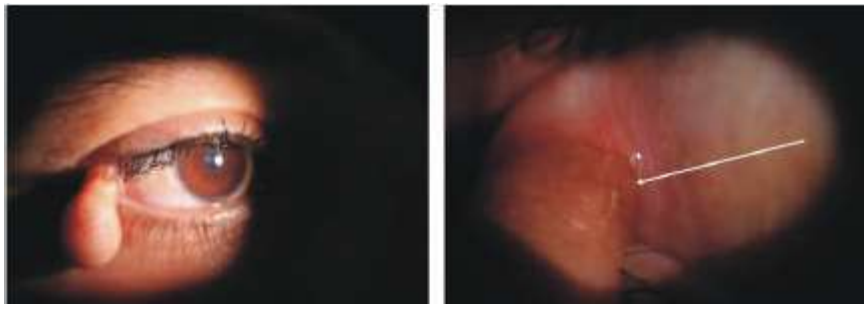

Fig. 5: Pedunculated Dermolipoma, Mucocutaneous junction (White arrow)

with brain cortical edema without any other abnormality. The final diagnosis was lethal toxic encephalopathy during 10 days of admission that was accompanied with improvement in all of clinical signs and symptoms except visual function at discharge time.

Case 6: A 16 years old girl complained of protruding mass from conjunctiva in lateral canthus of her right eye (Figure 5). The ophthalmic examination of eyes was within normal condition and there was not any systemic association. The pathological finding of excisional biopsy was dermolipoma.

DISSCUSION

This paper is emphasis on clinical signs in certain systemic diseases. While a survey that published in Life Science Weekly the alarming statistics demonstrated among certain ethnic groups. But gap between vision care knowledge and behavior, may prevent those who are at the greatest risk of certain eye conditions to find proper treatment and diagnosis. They suggested the early detection and treatment of vision and eye health issues can help to lessen or prevent permanent visual impairment [7].

Neepa Thacker reported a 6-year-old boy which referred for an "abnormal right pupil" by his pediatrician at an annual eye examination. This abnormal pupil was associated with glaucoma [8]. This is a clinical important screening sign in diagnosis of glaucoma as discussed by our first two case reports. The other difference was higher age but the key sign was mild globe enlargment that discovered by their classmate student. A variety of systemic disorders have been reported in association with hyperplasia of the iris pigment epithelium. One of the most common systemic diseases that associated with hyperplasia of the iris pigment epithelium is neurofibromatosis. In addition in certain cases neurofibromatosis was also associated with diabetes mellitus, facial hemiatrophy, Prader-Willi syndrome, asthma and dental anomaly [9, 10]. None of the two cases in this report had any identifiable systemic association. So the abnormal pupil indeed of any asymmetry between the children's eyes recommended early ophthalmology consultation especially if there is family history of glaucoma.

The interesting point of our third case report in 7 years old boy was symptomatic management of ophthalmic disorder. While all of these complain have not improved after therapeutic intervention but also the child suffering was continued. The reduced red reflex in this case was diagnostic sign as recommended by American Academy of pediatric reports [11]. Although the leading cause of lacrimation in children is congenital nasolacrimal duct obstruction but we should not forget the value of comprehensive ophthalmic examination by ophthalmologist.

The other mystery case was her clinical presentation. This girl attended to eye clinic with diplopia and history of otolaryngologist visit without a significant finding. After several months the patient revealed cervical adenopathy that biopsy results showed dormant clinical presentation. In a study by R M Comer and colleagues they recommended that patients with unexplained binocular diplopia or persistant of diplopia without improvement should be evaluated for proper determining of underlying etiology and managed as appropriate [10]. The fifth case that had visual loss after shigellosis gastroenteritis associated with impairment of pupillary reflex, which fortunately after one month visual function improved in this child as discussed by SM Bova, [12]. The last case had a clear point that it was inattention without any systemic finding.

CONCLUSION

The purpose of this paper is alliance to the clinical important ophthalmic or systemic presentation to consider

at least in preschool amblyopia screening. Therefore we are emphasizing on certain eye related conditions that are easily missed during visits even in the primary care office or by physician. The majority of eye screening involvements are amblyopia, strabismus, leukocoria, glaucoma, ocular inflammation, eye trauma, nystagmus and systemic disorders that affect the eye but we should notice and follow any suspicious clinical sign.

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