Original Article

Pattern of Common Eye Diseases in Children Attending Outpatient Eye Department Khyber Teaching Hospital

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Purpose: The objectives were to find out the pattern of eye diseases by age and sex and treatment given to them.

Material and Methods: In this hospital based study all children coming to outpatient Department of Ophthalmology, Khyber Teaching Hospital Peshawar over a period of two weeks from 1st June 2007 to 14th June 2007 were examined. A total of 202 children in age of 0-16 were included in the study. Informed consent was taken from all the patients. A standard performa was filled in for recording personal history examination results and treatment required.

Results: On average 20 children were examined daily. 60.8% were male, 39.1% were female. Vernal Keratoconjunctivitis was the most common disorder affecting 35.6% children followed by refractive errors involving 12.8% children. 39.6% of children attending eye outpatient were in age group 0-6 years, 46% were in age group 6-12 years while 14.3% were in age group 13-16 years. 59.2% children needed medical treatment, 28% required surgery while 12.8% required glasses.

Conclusion: Vernal Catarrh in this study was the most common occurring disorder due to hot summers. Males were more affected than females. Most children needed medical treatment.

Paediatric ophthalmic disorders are important because of their impact on child's development, education, future work, opportunities and quality of life. The global prevalence of blindness is 0.78/1000 and there are estimated 1.5 million blind children, three fourth of whom live in developing countries. Childhood blindness is the second largest cause of blind person years, following cataract. Globally about 70 million blind years are caused by childhood blindness. Approximately 500,000 children becoming blind every year, one every minute and half of them die within one to two years of becoming blind. There is no reliable data from developing countries on prevalence of blindness. In these countries a high proportion of children who become blind die within a few years of becoming blind, either from systemic complications of the condition causing blindness i.e. Vitamin A deficiency, measles, congenital rubella syndrome or because poor parents have more difficulty in caring for their blind children.

MATERIAL AND METHODS

We have studied all children coming to outpatient Department of Ophthalmology, Khyber Teaching Hospital Peshawar over a period of two weeks from 1st June 2007 to 14th June 2007. A standard performa was used. On anatomical basis the disorders were divided into disorders affecting conjunctiva, whole globe, cornea, lens, uvea, retina, optic nerve, ocular muscles, nasolacrimal system and refractive system. Detailed ocular examination was done for decision making, teaching and training purposes. Refraction was performed routinely under cycloplegia. Anterior segment examination was done with slit lamp and torch. Posterior segment examination was performed after dilating pupil using direct and indirect ophthalmoscope and fundus contact lenses. Intraocular pressure was checked with Perkins tonometer. Squint assessment was done in detailed way using prisms and tests for steropsis.

On treatment basis they were divided into those who were given medical treatment, those who received surgical treatment and those who received optical treatment. Prognosis for vision was described as could be improved, likely to remain stable and likely to deteriorate.

RESULTS

We studied two hundred and two children with paediatric ophthalmic disorders. (60.8%) were male and (39.1%) were female (Fig. 1). 46% were in age group 7-12 years while 39.6% belonged to age group 06 years, 14.3% belonged to age group 13-16 years (Table 1). Conjunctiva was involved in 42.5%. In conjunctival disorders; Vernal Catarrh was present in 35.6%, follicular conjunctivitis in 0.99%, Bacterial conjunctivitis in 1.4%, sub conjunctival haemorrhage in 0.99%, Vitamin A deficiency in 0.99% and pterygium in 0.99%. Cornea and Sclera was involved in 4.9%. In corneoscleral disorders corneal foreign body was present in 1.4%, corneal ulcer in 2.4%, corneoscleral repairs in 0.99%. Disorders of whole globe were present in 3.9%, in disorders of the whole globe phthisis was present in 0.49%, orbital cellulites in 2.4%, and glaucoma in 0.99%. Disorders of vitreous and retina accounted for 1.9%, they included maculopathy 0.99% and Retinoblastoma 0.99%. Disorders of lens were 8.9%. They were pre and post operative cataracts. Ocular muscles were involved in 11.8% and of these 7% were convergent squints while 4.8% were divergent squints. Lids were involved in 6.9% of the cases. In disorders of lids, blepharitis was present in 4.9%, chalazion in 0.99%, and stye in 0.49%. Nasolacrimal duct was involved in 5.4%. Refractive errors were present in 12.8% of the patients. We had no patient with optic nerve involvement in our study (Fig. 2).

Table 1. Age wise distribution of paediatric ophthalmic disorders

Age group	Numbers n (%)
0-6	80 (39.6)
7-12	93 (46)
13-16	29 (14.3)

Figure-1
Sex wise distribution of paediatric ophthalmic disorders

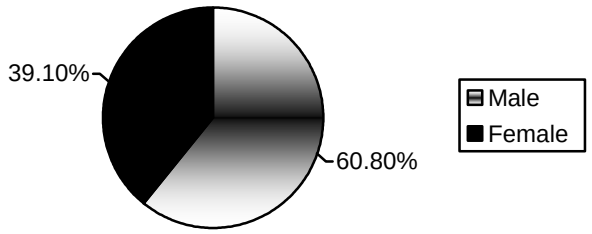

Fig. 1: Sex wise distribution of paediatric ophthalmic disorders

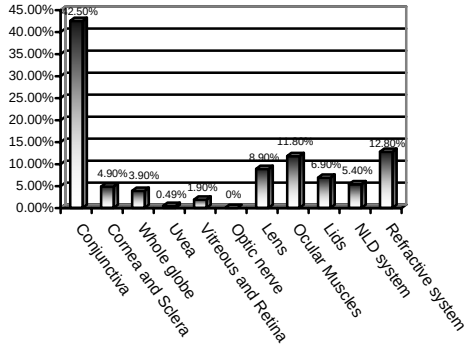

Fig. 2: Anatomical classification of ophthalmic disorders

Medication was given to 59.2% of patients. Medication and surgery was performed in 28% of the patients. Optical correction was performed in 12.8% of the children.

DISCUSSION

The occurrence of paediatric ophthalmic disorders in this study was 19.2%; within the group 68.9% were male and 39.1% were female. These findings are quite similar to study done at Lady Reading Hospital Peshawar where 66.2% were male and 33.8% were female[1].Vernal catarrh was the most common disorder accounting for 35.6% of the cases. This high occurrence of vernal catarrh may be due to the fact that the study was conducted in summers and vernal catarrh is more common in summers. The disease is common all over the world but is most common in hot climate. In this study males i.e. 81% were predominantly affected than females 19%. Similar male preponderance was found in another study at Laytan Rahmatullah Benovelant Trust Swat[2] and Lady Reading Hospital Peshawar[3]. In a survey among school children aged 6-10 years in South Africa revealed a prevalence of vernal keratoconjunctivitis of 11.8% in boys and 8.3% in girls[4]. Follicular conjunctivitis was present in 0.99%. The prevalence of trachoma as active disease has been reported in Ethiopia was 29% Kenya 59% Gambia 29% Malawi 49%, Tanzania 69.8%, Zambia 18%, Australia 66.9% and Sudan 65%[5]. Trachoma is still a leading infectious cause of blindness and ocular morbidity in the world. Corneal diseases accounted for 4.9% of paediatric ophthalmic disorders[6]. This is exactly the same to a study conducted in Blind Schools in North West Frontier Province where corneal diseases accounted for 4.9% of blindness in Children admitted in blind schools[7]. This is much less in comparison to other reports in blind schools in Pakistan and India where corneal diseases accounted for 12% and 26.4% respectively of all children with severe visual impairment/blindness[8&9]. In our study trauma accounted for half of the corneal disorders. In a study conducted at Hayatabad Medical Complex Peshawar showed that childhood ocular trauma accounted for 49% of the total ocular trauma admission[10].

In our study lens disorder accounted for 8.9% of the paediatric ophthalmic disorders. Bilateral congenital cataract is the most common cause of treatable childhood blindness. Nuclear cataract is usually present at birth and is non progressive whereas lamellar cataract usually develops later and is progressive[11]. It is estimated that incidence of bilateral cataract in childhood is at least 10 cases per million population per year. The major causes of bilateral cataract in South Asia are rubella (25%), heredity (25%) and unknown (50%)[12]. Refractive errors accounted for 12.8% of the paediatric ophthalmic disorders compared to the study carried out in India rural population 2.7%[13], rural country outside of Beijing, China 12.8%[14] and urban area of Santiago Chile 15.8%[15]. Refractive errors which account mostly for low vision and visual handicap are the third largest cause of curable blindness in Pakistan[16]. In one study it was found out that refractive errors account for 8% cases of uniocular blindness in North West Frontier Province[17]. Squints accounted for 11.8% of the paediatric ophthalmic disorders. Another study in

Tanzania shows the prevalence of squint was 0.5% and South of Kavadi of Pakistan shows prevalence of squint as 0.6% [18]. A study at Katmandu reported the prevalence of squint was 1.6%[19]. Determinants of strabismus diagnosis are important because of the amblyogenic nature of certain concurrent squint[20]. Esotropia is also more likely to be amblyogenic than exotropia[21,22]. The high occurrence of squint in our study may be due to the presence of a well established strabismology set up with a qualified paediatric ophthalmologist with special interest in strabismology available. Congenital glaucoma was present in 0.99% of the cases. The incidence of congenital glaucoma varies among different geographic locations and ethnic groups, with the highest recorded incidence found in the Gypsy population of Slovakia (1:1250), and followed by the general populations of the Middle East (1:2500) and the western nations (1:10,000)[23-26]. The inheritance pattern for congenital glaucoma is most commonly autosomal recessive with incomplete penetrance[23,27,28]. 39.6% of children attending eye outpatient were in age group 0-6 years, 46% were in age group 6-12 years while 14.3% were in age group 13-16 years.

The pattern of underlying causes of childhood blindness varies considerably between developed and developing countries. The etiological pattern seen today in industrialized countries have so evolved that factors operating in prenatal period are now the most important. By contrast, in the poorest developing countries, factors operating postnatal continue to predominate. In industrialized countries the main cause of childhood blindness are cataract, glaucoma, retinopathy of prematurity, genetic diseases and congenital anomalies. In developing countries blindness in children is usually caused by conditions which cause scarring of the cornea such as vitamin A deficiency, measles, infection, conjunctivitis of newborn and harmful traditional eye practices.

CONCLUSIONS

The most common eye problem was vernal catarrh. Refractive errors presented the second most common cause of paediatric ophthalmic disorder. Male were more affected than females. The most common age group affected was 7-10 years. Most of the children required medical treatment Squints were the most common disorder requiring surgical intervention followed by paediatric cataracts.

RECOMMENDATIONS

1. The WHO form should be used to record prevalence and causes of visual impairment and blindness in children.
2. Urgent public heath education is required to create awareness about importance of breast feeding, proper and timely weaning, avoidance of X-Rays, nonessential medications, harmful eye practices, genetic eye diseases.
3. Immunization against infectious diseases.
4. Routine refraction of children and provision of spectacles at low cost is recommended.
5. Regular supply of vitamin A to vulnerable group may reduce the problem of vitamin A deficiency.
6. The provision of microbiology laboratory will help in diagnosis and management of infectious cases at eye department.
7. Training of human resources to become Orthoptists and Paediatric Ophthalmologists.
8. Establishment of Paediatric ophthalmology unit in eye department, Khyber Teaching Hospital Peshawar.

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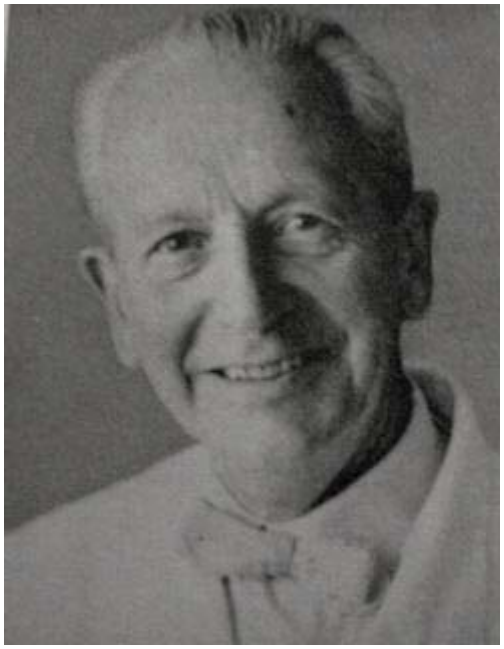
Guess who?



See next issue for answer.