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Original Research Article

Epidemiological study of pediatric lid and adnexal cases presenting to a tertiary eye care hospital, Telangana, India

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Abstract

Context: A prospective epidemiological study of eyelid and adnexal lesions in the pediatric age group was carried out with an objective of studying distribution pattern based on age and gender and classify the diseases based on the site of lesion and etiology.
Methods: This was an observational prospective study conducted amongst 649 cases in the age group of 0-18 years, presenting to the oculo-plastic clinic of Sarojini Devi Eye hospital conducted for duration of one year. All patients in the age group of 0 to 18 yrs presenting to the outpatient department are included and emergency cases where data could not be collected are excluded. All patients underwent a comprehensive eye examination and investigations specific to the type of disease.
Results: Most patients belonged to the age group of 12-18 years. Involvement was unilateral in 84.74% and bilateral in 15.26%. Acquired lid lesions were 70.42% and congenital lesions 29.58
Conclusion: Of all acquired lesions, infections and inflammations accounted for most of the cases. Among congenital lesions, 88.02% were congenital ptosis, 4.17% neoplastic lesions and 7.81% miscellaneous. In children, acquired lid lesions were more common than congenital lesions. Infections and inflammatory conditions were the most common cause of acquired lesions, followed by trauma. Congenital ptosis formed the majority of congenital lesions.
Conclusion: Acquired lesions are more common than congenital in pediatric age group and among acquired lesions infections and inflammations are common and in congenital lesions ptosis is the most common.

Keywords: Eyelid lesions, congenital ptosis, pediatric group

Introduction

Any deformity around the eye can have a negative impact on the psychosocial, economic and educational achievement of affected individuals especially children [1]. The presence of various skin appendages in the eyelid gives rise to a wide spectrum of lid lesions [2].

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Moreover with an increase in road traffic accidents, the number of eyelid injuries has increased in the past two decades. A variety of eyelid lesions are routinely encountered in a tertiary eye care centre. Also the spectrum of diseases in children is different from those in adults. Hence, there arises a need for a greater number of epidemiological studies on this topic. The study has been done to find common lid lesions in children presenting to the ophthalmic-plastic department in a tertiary eye care centre and their distribution and pattern according to age and gender. Commonly encountered lesions in children include congenital ptosis, lid lacerations, preseptal cellulitis etc. Congenital deformities associated with various syndromes are not too rare to encounter.

Materials and Methods

It was a prospective observational study of eyelid and adnexal lesions in the age group of 0-18 years, presenting to our institute for duration of 1 year. Data was collected from pediatric patients presenting to the Oculoplasty department of the tertiary eye-care centre. After taking a detailed history, all patients underwent a comprehensive eye examination and investigations specific to the type of disease. Eyelid and adnexal lesions were broadly classified into congenital and acquired lesions. Congenital lesions were further grouped as Congenital ptosis, neoplasms, and miscellaneous. Acquired lesions were subdivided into infections and inflammations, traumatic lesions, eyelid margin malposition's and miscellaneous. Data collected were tabulated and analyzed using Microsoft excel.

Table 1: Distribution of Patients as per age group

Age Group	Age Interval
A	<1 year
B	1-6 years
C	6-12 years
D	12-18 years

Results

Out of total 649 cases 346 were males and 303 were females. Most of the patients were 12 to 18 years of age. Acquired lid lesions accounted for 70.42% and congenital lesions were 29.58%. Infections and inflammations accounted for 57.77%, trauma 30.63%, eyelid margin malpositions 5.69% and miscellaneous lesions 5.91% of all acquired lesions.
Congenital ptosis contributed to 88.02%, neoplasms 4.17%, and miscellaneous 7.81% of congenital lid lesions. Involvement was unilateral in 84.74%, with the right eye involved in 42.68% and left eye involved in 42.06%. Bilateral involvement was seen in 15.26%.

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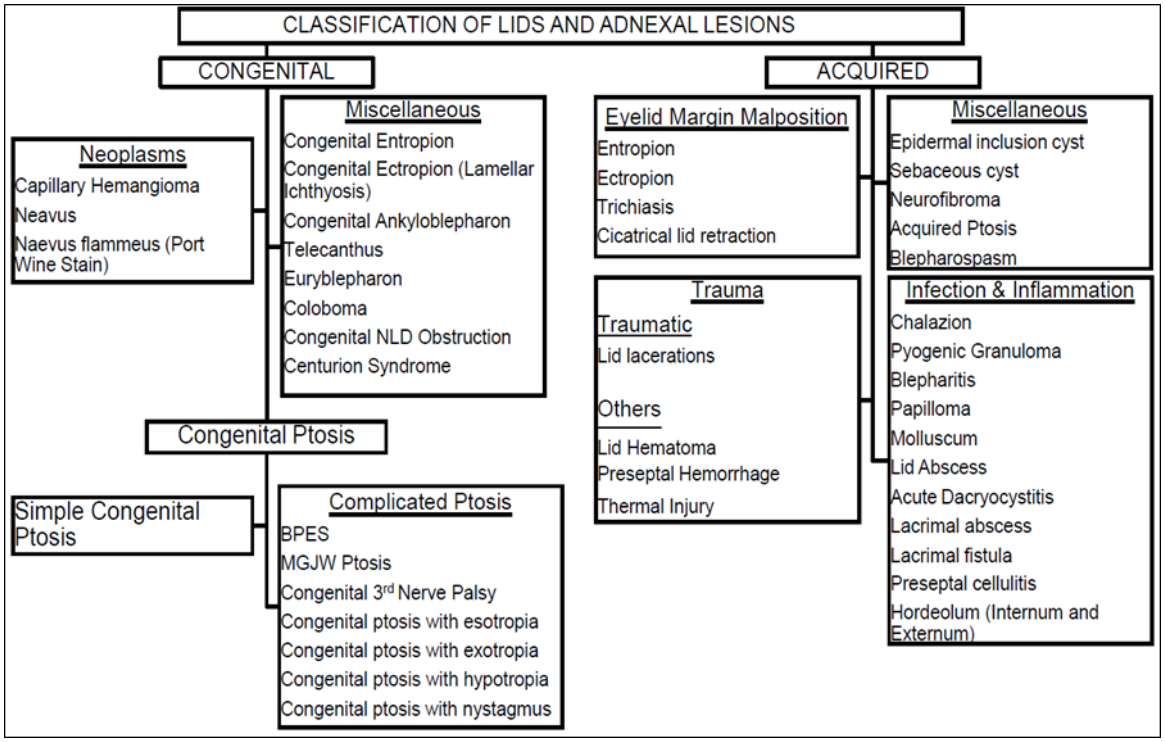

Fig 1: Common causes of lid lesions in children

Congenital Ptosis **Hordeolum Externum** **Blepharophimosis Syndrome**

Table 2: The following table represents the frequency of occurrence of various eyelid lesions, their gender distribution, lateralityand age distribution

Condition	Data		Sex		Lat			Age group			
Lid and Adnexa	**Freq**	**%**	**M**	**F**	**LE**	**RE**	**BE**	**A**	**B**	**C**	**D**
Acute dacryocystitis	5	0.77	3	2	1	3	1	1	1	0	3
Blepharitis	13	2.00	7	6	4	0	9	0	1	5	7
Blepharospasm	1	0.15	0	1	0	1	0	0	0	1	0
BPES	14	2.16	4	10	0	0	14	2	0	10	2
Capillary Hemangioma-lid	7	1.08	2	5	4	3	0	2	1	4	0
Centurion syndrome	1	0.15	1	0	0	0	1	0	0	0	1
Chalazion	58	8.94	22	36	27	19	12	0	11	20	27
Cicatricial Ectropion	6	0.92	6	0	4	2	0	0	2	1	3
Cicatricial Entropion	4	0.62	1	3	1	3	0	0	2	2	0
cicatricial lid retraction	13	2.00	9	4	4	7	2	1	3	4	5
Coloboma	3	0.46	1	2	1	1	1	0	2	1	0
Congenital Ankyloblepharon	1	0.15	0	1	1	0	0	0	1	0	0
Congenital Ectropion (Lamellar ichthyosis)	1	0.15	0	1	0	0	1	1	0	0	0
Congenital Entropion	1	0.15	0	1	0	1	0	0	0	0	1
Congenital NLD obstruction	2	0.31	0	2	1	0	1	0	1	1	0
Epidermal inclusion cyst	4	0.62	2	2	1	3	0	0	0	0	4
Euryblepharon	1	0.15	0	1	0	0	1	0	1	0	0

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Hematoma	4	0.62	4	0	2	2	0	0	1	1	2
Hordeolum Externum	29	4.47	16	13	16	13	0	0	6	15	8
Hordeolum Internum	29	4.47	11	18	11	18	0	0	12	10	7
Laceration	128	19.72	88	40	56	70	2	3	48	35	42
Lacrimal Abscess	2	0.31	1	1	0	2	0	1	0	1	0
Lacrimal Fistula	1	0.15	0	1	0	1	0	0	0	0	1
Lagophthalmos	4	0.62	3	1	1	2	1	0	1	0	3
Lid Abscess	6	0.92	4	2	5	1	0	0	2	3	1
Lid Nevus	1	0.15	0	1	1	0	0	0	0	0	1
Molluscum contagiosum	1	0.15	1	0	0	0	1	0	1	0	0
Naevus flammeus	1	0.15	0	1	0	1	0	0	0	0	1
Papilloma	8	1.23	3	5	4	4	0	0	0	0	8
Periocular Skin Tag(acrochordon)	1	0.15	0	1	0	1	0	0	0	0	1
Preseptal Cellulitis	76	11.71	39	37	38	38	0	6	29	24	17
Ptosis Acquired	10	1.54	4	6	4	5	1	0	0	6	4
Ptosis Congenital Simple	142	21.88	71	71	50	49	43	6	39	48	49
Ptosis Congenital with Esotropia	2	0.31	2	0	1	0	1	1	0	0	1
Ptosis Congenital with exotropia	1	0.15	1	0	1	0	0	0	0	0	1
Ptosis Congenital with hypotropia	3	0.46	1	2	3	0	0	0	1	0	2
Ptosis Congenital with Nystagmus	1	0.15	0	1	0	0	1	0	0	0	1
Ptosis Marcus Gunn jaw winking	6	0.92	5	1	3	3	0	0	4	1	1
Ptosis mechanical	1	0.15	1	0	0	1	0	0	0	1	0
Punctal stenosis	1	0.15	0	1	0	0	1	0	0	0	1
Pyogenic Granuloma	36	5.55	21	15	22	14	0	0	5	17	14
Sebaceous Cyst	6	0.92	3	3	2	4	0	0	0	2	4
Singeing of eyelashes	8	1.23	5	3	2	4	2	0	3	5	0
Telecanthus	3	0.46	2	1	0	0	3	0	0	1	2
Trichiasis	3	0.46	2	1	2	1	0	0	1	1	1
Total	649	100	346	303	273	277	99	24	179	220	226
Percentage	69.71		53.31	46.69	42.06	42.68	15.25	3.70	27.58	33.90	34.82

As observed from Table 2 that total 649 cases were studied out of which infections and inflammations were the most common acquired lesion followed by trauma. Among congenital lesion ptosis was the most common lesion. 346 were males and 303 were females. In 277 cases right eye affected and left eye in 273 cases and both eyes in 99 cases. 226 were in the age group of 12 to 18 years. 220 patients were in the age group of 6 to 12 years. 179 were in the age group of 1 to 6 years. 24 were in the age group of less than 1 year.

Table 3: Distribution of congenital and acquired lid and adnexal lesions in pediatric age groups

Particulars	Percentage
Congenital	29.58%
Acquired	70.42%

As seen from Table 3 that acquired lesions (70.42%) are more common than congenital lesions (29.58%) in our study.

Table 4: Distribution of congenital lid and adnexal lesions in pediatric age groups

Particulars	Percentage
Congenital Ptosis	88.02%
Neoplasms	4.17%
Miscellaneous	7.81%

As observed from Table 4 that among congenital lesions ptosis (88.02%) was the most common followed by Miscellaneous (7.81%) followed by neoplasms (4.17%).

Table 5: Distribution of acquired lid and adnexal conditions

Particulars	Percentage
Infections and inflammations	57.77%
Trauma	30.63%
Eyelid margin malpositions	5.69%
Miscellaneous	5.91%

As observed from Table 5 that infections and inflammations accounted for 57.77% followed by trauma 30.63%, Eye lid margin malposition (5.69%) and miscellaneous (5.91%) of all acquired lesions.

Table 6: Age distribution of patients

Age group	Number
< than 1 year	24
1 to 6 years	179
6 to 12 years	220
12 to 18 years	226

As observed from Table 6 that age group of 12 to 18 years is the most commonly affected age group followed by 6 to 12 years, 1 to 6 years and least common age group is less than 1 year.

Table 7: Laterality of eye

Laterality of eye	Percentage
Right Eye	42.68%
Left Eye	42.06%
Both Eyes	15.26%

As observed from Table 7 that right eye involved in 42.68%, left eye in 42.06% and both eyes in 15.26%.

Discussion

This is an epidemiological data analysis study of paediatric oculoplastic patients focussing mainly on etiological classification and age and sex distribution of various eyelid and adnexal conditions. This study has 649 cases in the age group of 0 to 18 years over a period of one year. Acquired lid lesions accounted for 70.42% and congenital lesions were 29.58%. Infections, inflammatory conditions, and trauma were the main causes of acquired lid lesions in the study. Trauma consisted of 30.6% of acquired lid lesions of which 91.4% were lid lacerations. The most common cause of lid laceration in children was RTA (32.03%), followed by fall from height (17.2%), injury with metal objects and stone (16.4%), dog bite and wild pig bite (11.70%), injury with a stick (10.15%) and miscellaneous (12.52%).

A considerable 11.70% of dog bite cases in children were found in this study. Most of them being less than 10 years of age probably due to children being vulnerable age groups. Congenital ptosis was the most common congenital lid lesion (88%).The total number of patients who presented with ptosis was180, of which 93.8% were congenital ptosis and 6.2% were acquired ptosis, this is similar to the study by Pavon P *et al*., where as acquired ptosis was the most common type of ptosis encountered, in studies by Lim JM *et al*., (acquired aponeurotic-60.2%) and Lee CC *et al*., (55.85%). This contradiction is probably due to the

different age groups of patients included in the study and the difference in the demographic area concerned. Blepharophimosis syndrome and Marcus Gunn jaw winking ptosis contributed to 7.7% and 3.3% respectively of the total ptosis cases. Male to female ratio was 1.4:1. Right eye was affected more than left eye.

Conclusion

Among pediatric lid lesions acquired were more common than congenital. Infections and inflammatory conditions were the most common cause of acquired eyelid lesions followed by trauma, most of it being lid lacerations. Road traffic accidents, fall from height and dog bite were the common causes of trauma. Congenital ptosis formed the major portion of congenital lid lesions. BPES formed 8% of congenital ptosis, which is a higher proportion compared to other epidemiological studies. Study of epidemiological patterns helps to attain early and accurate management.

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