

Etiology and Epidemiologic Profile of Childhood Ptosis in a Tertiary Care Centre in Eastern India

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Abstract

Original Research Article

Eyelid ptosis is characterised by an abnormal drooping of the upper eyelid. Childhood ptosis may be congenital or acquired. This study was done to find different causes and epidemiologic profile of childhood ptosis. A total of 55 patients with childhood ptosis were included in the study. Forty two out of 55 (76.36%) patients were congenital in onset. Among congenital ptosis most of cases were simple congenital ptosis (64.3%) and others were superior rectus weakness (23.8%), Marcus Gunn syndrome (7.1%), Blepharophimosis syndrome (2.4%), and Congenital Horner syndrome (2.4%). Thirteen out of 55 patients (23.64%) had acquired etiologies. Among acquired causes, 3rd cranial nerve palsy (30.8%), aponeurotic dehiscence (23.1%), traumatic ptosis (23.1%), ocular Myasthenia Gravis (15.4%), and acquired Horner syndrome (7.7%) were seen. This study showed simple congenital ptosis as the most common type of childhood ptosis and constitutes about two-third of all cases.

Keywords: Ptosis, Blepharophimosis, Horner syndrome, Myasthenia Gravis.

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INTRODUCTION

Eyelid ptosis is characterised by an abnormal drooping of the upper eyelid [1]. Childhood ptosis may be associated with amblyopia due to obscurations of visual axis [2, 3]. Most of cases of childhood ptosis are congenital; some are acquired and develop as a result of trauma, surgery, or associated with diseases of one or more extraocular muscle or any systemic disease [4, 5]. Patients are considered as congenital if they presented at birth or within 1st year of life with no history of any acquired etiology [6, 7]. Childhood ptosis has significant impact on patient's quality of life so, identifying various etiologies and epidemiology is very crucial for management. So this study was done to determine different causes and also epidemiological profile of childhood ptosis in tribal dominant population of Jharkhand attending RIO, RIMS RANCHI.

MATERIALS AND METHODS

Consecutive patients of ptosis younger than 18 yrs. of age who presented between January 2015 to April 2018 were evaluated retrospectively. Detailed history was taken. Demographic variables were recorded such as age of onset, sex, laterality, family history, presence of amblyopia, any previous surgery. In all cases visual acuity, ocular motility, Bells

phenomenon, corneal sensitivity, cover test, slit lamp examination and fundus examination were done. In all cases severity of ptosis and LPS function were measured.

Measurement in childhood ptosis

- Palpebral fissure height: it was taken as distance between upper eyelid margin and lower eyelid margin at centre. Normally it is 9-10 mm in primary gaze [5]
- Margin reflex distance: distance between upper eyelid margin to pupillary light reflex. Grading was done accordingly:
Mild: ≤ 2 mm
Moderate: 3mm
Severe: ≥ 4 mm
- Levator function: it was measured by Berkes method. In this method frontalis muscle were held still by finger and levator function were measured as distance of excursion of the upper eyelid margin from downgaze to upgaze. Normal is 14 mm or more [6] Grading of levator function was done accordingly.
Poor = <4 mm
Fair = 5-7 mm
Good = 8-12mm

Patients were considered as congenital if they presented at birth or within 1st year of life with no history of any acquired etiology.

RESULTS

A total of 55 patients less than 18 years of age were diagnosed with childhood ptosis during 3- year study period. Out of total patients 29 (52.7%) were male and 26 (47.3%) were female.

Forty two out of 55 (76.36%) patients were congenital in onset. Among congenital ptosis most of cases were simple congenital ptosis (64.3%) and others were superior rectus weakness (23.8%), Marcus Gunn syndrome (7.1%), Blepharophimosis syndrome (2.4%), and Congenital Horner syndrome (2.4%). Table 1

shows etiology and demographics of patients with congenital ptosis.

The mean age of diagnosis of simple congenital ptosis was 1.4 years (range 28 days to 15.8 years). Most of cases were unilateral (88.9%) but few were bilateral (11.1%) as well. Left sided involvement was more common among unilateral cases.

Thirteen out of 55 patients (23.64%) had acquired etiologies. Among acquired causes, 3rd cranial nerve palsy (30.8%), aponeurotic dehiscence (23.1%), traumatic ptosis (23.1%), ocular Myasthenia Gravis (15.4%), and acquired Horner syndrome (7.7%) were seen. Table 2 shows etiology and demographics of acquired ptosis.

Table-1: Showing etiology and demographics of 42 patients of congenital ptosis

Etiology	Number (%)	Mean age (years)	Sex		Laterality		
			M	F	R	L	B/L
Simple congenital ptosis	27 (64.3%)	1.4	15	12	8	16	3
Superior Rectus weakness	10 (23.8%)	1.8	4	6	4	6	-
Marcus Gunn jaw winking syndrome	3 (7.1%)	9.6	2	1	2	1	-
Blepharophimosis	1 (2.4%)	3	-	1	-	-	1
Congenital Horner's syndrome	1 (2.4%)	5	-	1	-	-	1

Table-2: showing etiology and demographics of 13 patients of acquired ptosis

Etiology	Number (%)	Mean age (years)	Sex		Laterality		
			M	F	R	L	B/L
Acquired 3 rd nerve palsy	4 (30.8%)	13.5	3	1	2	2	-
Aponeurotic Dehiscence	3(23.1%)	12.3	2	1	-	1	-
Traumatic ptosis	3(23.1%)	7.3	2	1	2	1	-
Myasthenia Gravis	2(15.4%)	12.5	-	2	-	-	2
Acquired horner syndrome	1 (7.7%)	9	1	-	-	1	-

DISCUSSION

To our knowledge, this was the first study conducted to describe the etiology and epidemiological profile of childhood ptosis in a tertiary care centre in eastern India. Childhood ptosis was diagnosed in 55 children of less than 18 years of age in tribal population of Eastern India, during 3 year study period. Simple congenital ptosis was the most prevalent type of childhood ptosis diagnosed. It comprised 64.3% of all cases. Berry-Brincat *et al.* studied the relative proportions of various form of ptosis in large 10- year review of 155 patients [8]. They also reported as myogenic ptosis as most common. Myogenic ptosis was named here as simple congenital ptosis. In another study by Lee V *et al.* myogenic ptosis was most prevalent type (79%) of childhood ptosis [9].

In unilateral cases (88%) of simple congenital ptosis left eye was involved in two-thirds cases. In a study done by Griepentrog GJ *et al.* reported that left side involvement was more common [10]. Other type of ptosis noted in this study was superior rectus weakness

(23.8%), Marcus Gunn jaw winking ptosis (7.1%), and Horner syndrome (2.4%).

Amongst acquired ptosis, 4 cases of acquired third nerve palsy were seen which most common cause amongst acquired ptosis was. Aponeurotic dehiscence was seen in 3 cases of childhood ptosis due to use of hard contact lens and acquired horner syndrome were due trauma to the involved eye. An additional 2 cases of ptosis were due to trauma which led to architectural damage to eyelid.

CONCLUSION

The findings of the study provide population based etiology and epidemiological profile for childhood ptosis diagnosed over 3- year period. This study showed simple congenital ptosis as the most common type of childhood ptosis and constitutes about two-third of all cases.

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