

Original article

Etiopathogenetic patterns of blepharoptosis in Western Nepal : an Overview

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Abstract

Background: The clinical picture of blepharoptosis varies from a cosmetic problem to severe visual dysfunction depending on the pathogenesis and the degree of ptosis. **Objective:** To study the type, pattern and causes of ptosis in patients seeking oculoplastic care in western Terai of Nepal. **Patients and methods:** A retrospective descriptive hospital based was carried out over a period of 2 years in oculoplastic clinic in Lumbini Eye Institute, Bhairahawa. Demographic variables including the age of the patient, gender, laterality of the eye(s), visual acuity, presence of refractive error and or amblyopia, type of ptosis and previous ptosis surgery were recorded. **Results:** There were altogether 326 patients of ptosis during the 2 year-period. Congenital ptosis presented early the mean age being 23(SD \pm 9.91) years. Acquired ptosis presented late with the mean age of 35(SD \pm 14.98) years. Congenital ptosis was more common (52%) compared to acquired ptosis (48%). 4.7% of congenital ptosis had amblyopia. Among all ptosis patients, myogenic cause of ptosis was the commonest followed by mechanical, aponeurotic, traumatic and neurogenic. Simple congenital ptosis was the commonest, and among acquired ptosis, mechanical ptosis was the commonest. Most of the ptosis was unilateral (87.7%) regardless of its onset either congenital or acquired. Regarding the severity of ptosis, mild ptosis was the commonest. **Conclusion:** Ptosis was the 3rd most common lid condition in oculoplastic clinic presentation after entropion and chalazion. Simple congenital ptosis was the commonest form of ptosis.

Keywords: Lid, Ptosis, Unilateral, Myogenic

Introduction

Blepharoptosis is the downward displacement of the upper eyelid. It is one of the most common upper eyelid conditions present in patients attending oculoplastic clinic. Its clinical picture varies from a cosmetic problem to severe visual dysfunction, depending on the pathogenesis

and the degree of ptosis. Different classification have been developed based on severity (levator function), anatomy, and age of onset (Berke et al, 1949, Frueh; 1980). The main etiologic groups are myogenic, aponeurotic, neurogenic, mechanical, and traumatic (Finsterer, 2003). Congenital ptosis presents at birth and mostly recognized during the first weeks of life. It is associated with impairment in child's functional status and visual development. About 20–70% of patients with simple congenital ptosis are

Received: 10/06/15

Accepted: 11/11/15

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seen with amblyopia (Gusek-Schneider et al, 2000, Merriam et al, 1980, Anderson et al, 1980) and it is more common in unilateral congenital ptosis. Acquired ptosis is any ptosis that appeared after birth. It is also associated with interference with daily activities due to impairment in the field of vision (Meyer et al, 1993). Aponeurotic (also known as involutional ptosis) is the most common type of acquired ptosis. It is seen as part of natural age-related changes, or secondary to ocular surgery, long-term contact lens wear, chronic inflammation, or trauma. (Reddy et al, 2007; Singh et al, 1997). This study was done to find out the etiological and demographic characteristics associated with different types of ptosis in patients referred to oculoplastic clinic in Lumbini Eye Institute.

Materials and methods

This is a hospital based retrospective descriptive study. Lumbini Eye Institute is a tertiary level eye care hospital in midwestern terai of Nepal. The cases were included from oculoplastic clinic in Lumbini Eye Institute from January 2008 to December 2009, duration of 2 years. All cases of ptosis that presented to oculoplastic clinic or those identified in general outpatient department and referred to oculoplastic clinic were included. We recorded demographic profile including the age of the patient, their gender, laterality of the eye(s), presence of refractive error and or amblyopia, family history of ptosis, type of ptosis and previous ptosis surgery. The etiology for ptosis was determined based on history and examination. The cause and severity of the ptosis was classified according to Freuh's mechanistic classification, 1980 and Finsterer's classification, 2003. In unilateral cases, the amount of ptosis was calculated as the difference in mm between the heights of the palpebral apertures as well as margin reflex distance which refers to the distance between the corneal light reflex and the ipsilateral upper eyelid margin while fixating on a penlight held

directly in front of the patient: mild ptosis was defined as difference of 2 mm or less, moderate ptosis was defined as the difference of 2–4 mm, and severe ptosis was defined as difference of 4 mm or more. In bilateral cases the ptosis was classified as severe if the height of the palpebral fissures was less than or equal to 4 mm, as moderate if the palpebral apertures were between 4–6 mm, and mild if the palpebral aperture was 6 mm or more. (Lee et al 2002) Levator function was classified as excellent (13 to 15 mm), good (8 to 12 mm), fair (5 to 7 mm), and poor (4 or less). (Gausas et al 1999) A total of 326 cases were identified with ptosis among the 12350 cases that came to oculoplastic clinic in that 2 years' time. In all patients, the determined etiology of ptosis was categorized into two major types of ptosis: congenital and acquired. Then further subdivided as aponeurotic, myogenic, neurogenic, mechanical, or traumatic.

Results

There were altogether 326 cases of ptosis during the 2 years period. The mean age was 27 years with age ranging from 1 year to 91 year. Congenital ptosis presented early with mean age of presentation being 23 years. Acquired ptosis presented late with mean age of presentation being 35 years. Among them 167 were male and 159 were female. Most of the ptosis was unilateral (87.7%) regardless of onset, either congenital or acquired. Left side was found more commonly involved than right side. Left side was involved in 52.1% of cases. Right side was involved in 35.6% and both the side involved in 12.3% of the cases. Most of the patient (>90%) had vision better than 6/24 in presenting eye.

In our study, congenital ptosis was more common [52%, 170] in comparison to acquired ptosis [48%, 156]. Eight cases (4.7%) of congenital ptosis had amblyopia. Among congenital ptosis, there were 13 cases of congenital complicated ptosis; with 3 blepharophimosis syndrome

and 10 Marcus jaw winking syndrome ; rest 146 were simple congenital ptosis. Among the myogenic acquired ptosis there had been 5 cases of suspected CPEO and 2 cases of suspected muscular dystrophy and 10 cases of myasthenia gravis.

Among congenital neurogenic 10 cases had Marcus Gunn jaw winking phenomenon. Among acquired neurogenic cases; 10 had ptosis due to 3rd nerve palsy. Among mechanical ptosis, blepharochalasis was seen in 15, neurofibroma of lid in 9, papilloma of lid in 1, angular dermoid in 16, and capillary hemangioma of lid in 20 cases out of 61 cases. As per traumatic cases, they were grouped as separate entity based on history of trauma.

Among all ptosis, myogenic cause of ptosis was the commonest followed by mechanical, aponeurotic, traumatic and neurogenic. Among congenital ptosis, myogenic ptosis was the commonest, and among acquired ptosis mechanical ptosis was the commonest.

Regarding the severity of ptosis 61% were mild, 30.1% were moderate and 7.7% were severe.

Among the 326 patient 120 (72 males, 48 females) went for surgical correction solely for cosmetic reason rather than visual reason.

Table 1: Etiological Subdivision of Ptosis

Type	Frequency	Percentage
Neurogenic	20	6
Marcus Gunn Jaw winking phenomenon	10	3
Third nerve palsy	10	3
Myogenic	166	51
Simple congenital ptosis	146	45
Blepharophimosis syndrome	3	1
Myesthenia gravis	10	3
Suspected CPEO	5	1
Suspected Myotonic Dystrophy	2	1
Mechanical	61	19
Aponeurotic	51	15.5
Congenital	11	3
Acquired	40	12
Traumatic	28	8.5
Total	326	

Table 2: Pattern of Congenital Ptosis

Type	Frequency	Percentage
1) Simple congenital	146	45
2) Congenital complicated	13	4
Marcus Gunn Jaw winking phenomenon	10	3
Blepharophimosis syndrome	3	1
3) Aponeurotic	11	3
Total	170	52

Table 3: Pattern of Acquired Ptosis

Type	Frequency	Percentage
Traumatic	28	9
Aponeurotic	40	12
Mechanical	61	19
Bleharochalasis	15	5
Neurofibroma of lid	9	2.7
Papilloma of lid	1	0.3
Angular dermoid	16	5
Capillary hemangioma of lid	20	6
Neurogenic	10	3
Third nerve palsy		
Myogenic	17	5
Myesthenia Gravis	10	3
CPEO	5	1
Myotonic dystrophy	2	1
Total	156	48

Discussion

This study was done to evaluate the etiological and demographic characteristics of patients with ptosis. In our study a total of 326 cases were evaluated for ptosis. Mean age of presentation of ptosis was 27 years; age ranging from 1 year to 91 years. In our study, congenital as expected presented early compared to acquired, which is comparable to the study done by Anderson et al, 1980 and Thapa R et al, 2006. Male has slight predominance to female in our study (51.38% vs. 48.62%) which is comparable to a study done by V Lee et al, 2002 where they report that childhood ptosis was more common in male sex.

In this study, majority of the ptosis was unilateral (87.7%) for both congenital and acquired ptosis. Left side was found more commonly involved than right side. This finding is also

similar with the study done by Gusek Schneider et al 2000. Majority of ptosis was myogenic followed by mechanical, apponeurtic, traumatic and neurogenic. Baggio et al 2002 in a study showed that 42% cases were myogenic followed by aponeurotic (35%), neurogenic (6.8%) and mixed in (15.9%). And in study done by V Lee et al 2002 the most common etiology was myogenic (79%) in congenital ptosis. Unlike other studies, mechanical ptosis was the second most common cause of ptosis. Drooping of lid in these cases present more in the area of mass. Capillary hemangioma of lid was the commonest cause of mechanical ptosis, followed by dermoid and blepharochalasis. This may be due to tendency of overlooking ptosis in patients with these findings in other studies. Neurogenic ptosis comprised the smallest group. Marcus Gunn jaw winking was seen commonly in congenital group and 3rd nerve palsy was seen commonly in acquired group.

Regarding the severity of ptosis mild ptosis was the commonest. The likely reason for this may be due to the fact that cases with mild ptosis, even though not concerned with ptosis were all referred to oculoplastic clinic from general outpatient department. Regarding vision most of the patient >90% has vision better than 6/24 in presenting eye in majority of cases. Functional disability was not a predominant complaint among study patients.

In our study of 326 cases, ptosis was an esthetic problem in majority of cases. In general, ptosis usually does not improve over time and frequently requires corrective surgery. Among the 326 cases, 120 went for surgical correction solely for cosmetic reason rather than visual reason, which is similar to study done by V Lee and et al in 2002 where 57% (189 out of 333) of patients had cosmetic and 43% (141 out of 333) had visual indications for ptosis surgery. This is also similar with studies by Shields M et al 2003 and Iliff JW et al 2001.

Blepharoptosis is a common condition for patient referral to oculoplastic clinic and a cosmetic concern for patient beside functional impairment. Our study has drawback and limitations inherent in all retrospective studies. Though it is a large number of case series, not being a community based study; incidence and prevalence of ptosis could not be estimated. Surgical outcomes of the operated cases were not evaluated as most follow up record were missing due to loss of follow up.

Conclusion

Ptosis was a frequent condition in oculoplastic clinic with its clinical picture varying from a cosmetic problem to severe visual dysfunction. It was the 3rd most common lid condition after entropion and chalazion. Myogenic type of ptosis was the commonest form of ptosis. Many patients took oculoplastic care for cosmetic reason.

Acknowledgement

All the Faculties and staffs of Lumbini Eye Institute, Dr Gulsan Bahadur Shrestha

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Source of support: nil. Conflict of interest: none