



## "CLINICAL PROFILE OF UPPER EYELID BLEPHAROPTOSIS IN TERTIARY CARE HOSPITAL"

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### ABSTRACT

Blepharoptosis is drooping of upper eyelid with the eyes in the primary position of gaze. This study was conducted to learn clinical aspects of blepharoptosis and to see the outcome of frontalis sling surgery by silicone sling in congenital ptosis. In this study total 51 eyes of 42 patients were included in the study. A detailed history and clinical examination was done. Out of these patients, patients of congenital ptosis who were willing for surgery were posted for frontalis silicone sling surgery. After surgery, patients were followed up after a period of 7 days, 14 days, 1 month and 3 months for postoperative outcome. The surgical outcome was 100% with mean post-operative MRD1 of  $3.9 \pm 0.8$ . Maximum number of patients were in the age group 0-10 years. Mean age of our patients was 31.93 year. Most common type of ptosis was congenital ptosis (66.7%).

### KEYWORDS :

#### INTRODUCTION:

The term "ptosis" is derived from the Greek word "falling" and refers to drooping of a body part.<sup>(1)</sup> Blepharoptosis is drooping of upper eyelid with the eyes in the primary position of gaze. Drooping of the eyelids may produce a functional or a cosmetic problem. Ptosis can be classified as true ptosis or pseudoptosis. True ptosis is further classified according to the age of presentation into congenital ptosis and acquired ptosis.<sup>(2)</sup> Ptosis is a common clinical sign which affect individuals of all ages ranging from neonates to elderly individuals. The drooping may be insignificant; however, in a few patients, it might be severe in that the pupils are completely covered by upper eyelid causing visual disturbances. The blepharoptosis may affect the vision of the child if there is accompanying refractive errors, strabismus. Amblyopia may develop due to significant uncorrected refractive errors, strabismus or occlusion of the visual axis. Aesthetic concerns of a ptotic eyelid are also profound especially for the school going child or young adults looking for a life partner.

Correction of ptosis is mainly surgical with few exceptions. The surgical techniques most commonly used in ptosis are Levator repair (Anterior approach) and Muller's muscle-conjunctival resection (Posterior approach), Frontalis sling. Ptosis correction by proper method at proper time helps in restoring vision and also improves the aesthetic appearance. So in this research study we are presenting the clinical profile of ptosis and the surgical outcome after frontalis sling surgery by silicone sling in congenital ptosis.

#### AIMS AND OBJECTIVES:

1. To study the most common age group, gender, laterality involved in upper eyelid blepharoptosis.
2. To study the various types and etiology and degree of upper eyelid blepharoptosis.
3. To study the functional and cosmetic outcome after frontalis sling surgery with silicone sling in congenital ptosis.

#### MATERIALS AND METHODS:

##### STUDY SETTING:

The present study was conducted in the Department of Ophthalmology in a tertiary care hospital and medical college. The study was undertaken after approval from Institutional Ethical Committee.

#### STUDY DESIGN:

It was a prospective observational study.

#### STUDY POPULATION:

All walk in patients with ptosis visiting in ophthalmology OPD in Tertiary Care Hospital.

#### SAMPLE SIZE:

42 patients (from 01/01/2019- 01/07/2020). We followed complete enumeration method.

#### STUDY DURATION: 18 months

#### INCLUSION CRITERIA:

1. Patient of all ages and gender with upper eyelid blepharoptosis, visiting in ophthalmology OPD.
2. All patients who have given informed written consent.

#### EXCLUSION CRITERIA:

1. Patients unwilling for giving their consent.
2. Patient with acute upper eyelid blepharoptosis due to head injury with serious condition.
3. Patients having history of previous ptosis surgery.

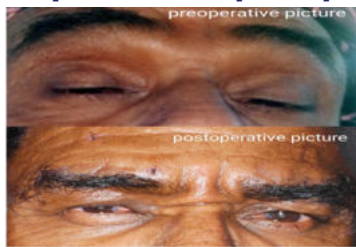
#### METHODOLOGY:

This prospective observational study was conducted in the ophthalmology department of government medical college, from January 2019 to July 2020. All walk in patients having upper eyelid blepharoptosis visiting in ophthalmology OPD in Tertiary Care Hospital were included in the study. All the relevant information was recorded in case record form and diagnosis was based on history, detailed ophthalmic and ptosis evaluation which includes visual acuity, refraction, fundus examination, slit lamp examination, measurement of MRD 1 (margin reflex distance), MRD 2, palpebral fissure width and vertical height in primary position, levator muscle function, Superior rectus action, fatiguability test, extraocular-movements, marcus gunn jaw-winking phenomenon, corneal sensations, Bells phenomenon, pupil examination. General routine investigation was done, patients who were willing for surgery with moderate to severe congenital ptosis with good bells phenomenon and poor LPS action were posted for ptosis correction surgery (frontalis silicone sling surgery) and then outcome was evaluated thoroughly. All the patients who had undergone silicone sling surgery, their postoperative evaluation was done on second postoperative day and were called up for follow up after 7 days, 14 days, 1 month, 3 months.

Surgical procedure- The Frontalis sling surgery was

performed using Fox Pentagon technique using silicone rod suspension set. A sterile marker pen used to mark 2 mm above the lash line parallel to the level of lateral and medial limbus at 3 and 9 o'clock position, just above the lateral and medial ends of the brows in line with lateral and medial canthus and around 1 cm above the brow on the forehead in the pupillary axis. Subcutaneous infiltration of local anesthetic (mixture of 2% injection lignocaine with 1:200,000 adrenaline with 1 ampule (150 USP units) injection hyaluronidase and 0.5% bupivacaine) injected at the markings. Stab incisions were made along the markings with 15 number Bard-Parker blade. The needle was passed from the eyelid incision to exit above the brow on each side medially and laterally. Finally, the needle was taken out from the forehead incision. The needle was detached, and both ends of the silicone rod were passed through the sleeve supplied with the set. The silicone sling was tightened until the upper eyelid margin was above the pupil after negating the frontalis action by pressure over suprabrow area by the assistant's thumb. In patients under general anesthesia, the sling was tightened till the visual axis is clear. The ends of the rod were cut long and buried. All incisions were sutured with 5-0 vicryl. A single Frost suture was passed through the lower lid and lower lid pulled up to close the eye and kept in place for 48 hours. Cold compression and copious lubricating eye drops (four times a day) were started following removal of the eye patch. Topical moxifloxacin eye ointment was prescribed for 2 weeks with gel preparation to be instilled daily for long-term use.

Picture no.1- Preoperative and Postoperative picture



**RESULTS:**

Total 51 Eyes Of 42 Patients With Ptosis Were Observed.

• **TABLE NO.1 - Age distribution in ptosis:**

AGE GROUP IN YEARS	NO. OF PATIENTS	PERCENTAGE
0-10	14	33.3
11-20	5	11.9
21-30	4	9.5
31-40	4	9.5
41-0	2	4.8
>50	13	11
TOTAL PATIENTS	42	100

- Maximum number of patients were in the age group 0-10 years.
- The Youngest patient in our study was 5 year old and oldest patient was 78 years old.
- Mean age of our study was 31.93 year and standard deviation was 24.13 year.
- Gender distribution - Male : female ratio in our study was 2:1 .
- Most common type of ptosis was congenital ptosis(66.7%).
- In congenital- Simple ptosis(64.3%) was more common than complicated ptosis (35.7%).
- In acquired- aponeurotic ptosis was the commonest type(35.7% ). Neurogenic- 28.6%,Mechanical- 21.4%, Myogenic- 14.3%.
- Unilateral ptosis(78.6%) was common than bilateral ptosis (21.4%). Left eye (57.6%) was more commonly affected than right eye (42.4%) in unilateral ptosis.
- Majority of ptosis were of severe degree (52.9%).

Moderate-25.5%, Mild-21.6%.

- Among 42 patients (51 eyes) with ptosis, 13 patients (15 eyes) (15 surgeries) of severe/moderate congenital ptosis with poor LPS action and good Bells phenomenon underwent frontalis sling surgery with silicone sling. All 15 surgeries had good outcome (100% surgical outcome) with mean post-operative MRD1 of 3.9 and standard deviation 0.8. Good functional and cosmetically acceptable correction was achieved.

**DISCUSSION:**

- Rania El Essawy et al in their study found the mean age at presentation was 3.2 years (range 0.25-10 years) <sup>(3)</sup>. Alamou S et al in their study observed patients aged from 1 to 69 years with a mean age of 28.7 ± 19.8 years. The age group under 15 years of age was the most affected, with 31.1% of cases. Then, those between 16-30 years and 31-45 years with 24.1% of cases each <sup>(4)</sup>. Our results that the most predominant age group affected is 0-10 years age group is similar to the above studies. This result is may be due to the cosmetic consciousness in this age group.
- V Lee et al in their study included 340 patients. A total of 213 (63%) of the patients were males and this male preponderance was found across most of the aetiological groups <sup>(5)</sup>. Alamou S et al in their study stated that ptosis was higher in men (69%) than in women (31%). The sex ratio was 2.2. <sup>(4)</sup> Our results are similar to these studies.
- Gregory J. Griepentrog et al in their study observed a total of 107 children who were diagnosed with ptosis during the 40-year period. Ninety-six (89.7%) of the 107 were congenital in onset, 81 (75%) of which had simple congenital ptosis <sup>(6)</sup>. Rania El Essawy et al stated that the commonest type was congenital (68.9%) in their study <sup>(3)</sup>.
- Khyati P. Shah et al in their study found that the postoperative palpebral fissure height and margin reflex distance improved significantly <sup>(7)</sup>. SM Balaji in their study observed 22 cases that fulfilled the inclusion and exclusion criteria. Of them, 10 were treated with silicone sling material, they stated that the mean late postoperative MRD1 for the silicone group was 3.2 ± 0.46 with a range of 2.5-4. <sup>(8)</sup>

**CONCLUSION:**

Upper eyelid blepharoptosis forms a major factor leading to visual impairment. Upper eyelid blepharoptosis hampers visual acuity in moderate and severe grade of ptosis. As upper eyelid blepharoptosis leads to unacceptable cosmetic appearance and defective vision, the fight against blepharoptosis by surgical procedures were successful. A surgery restored a stable, normal functioning eyelid and improved superior visual field, thereby forms the main treatment of choice. Silicone sling surgery is one of the safe and effective method for ptosis correction.

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