

EXCURSION RANGE VARIATION IN LEVATOR PALPEBRAE SUPERIORIS WITH CONGENITAL POOR FUNCTION WHEN DISSECTED FREE FROM SURROUNDING FIBROUS ATTACHMENTS

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Introduction

Ptosis is a condition where the upper eyelid droops below its typical position, resulting in a reduced vertical gap of the palpebral fissure. Addressing congenital ptosis promptly and effectively is crucial for the normal development of the visual system and for preventing amblyopia. Correcting severe congenital ptosis presents a significant challenge. Determining the best approach for attaining both symmetry and aesthetic improvement remains a subject of debate. Frontalis suspension surgery has been regarded as the preferred treatment for managing congenital ptosis when there is poor levator function but it has many complications. Maximum levator resection (MLR) was advocated as an option for addressing severe congenital ptosis. A noticeable enhancement in levator function (LF) was documented in our study after MLR with freeing of the levator muscle from fibrous attachments. This improvement not only enhances the functional aspect but also contributes to more favorable cosmetic results post-surgery.

Aim of the Work

Was to evaluate the effect of freeing levator fibrous attachment on eyelid excursion in patients undergoing levator resection for congenital ptosis with poor levator function.

Patients and Methods

A prospective interventional study that recruited 35 eyes of 27 Patients with congenital ptosis with poor levator function who presented to the Ophthalmology Department of Alexandria Main University Hospital and required surgical intervention were recruited.

Exclusion criteria:

Patients with previous eyelid or orbital surgeries

All patients underwent maximum levator resection with freeing of levator muscle fibrous attachments (dissection resection technique).

The palpebral aperture (PA), margin reflex distance (MRD-1) and Levator function (LF) preoperatively and postoperatively were assessed and compared. Complications such as under-correction, recurrence, notching, corneal exposure and conjunctival prolapse were documented.

Results

Table 1: TABLE 1 is descriptive of the study parameters at each time point.

Term	LF				PA				MRD1			
	pre	Post 1m	Post 3m	Post 6m	pre	Post 1m	Post 3m	Post 6m	pre	Post 1m	Post 3m	Post 6m
Avg (SD)	2.34 (1.41)	6.6 (1.91)	7.34 (1.95)	7.37 (1.94)	5.14 (1.19)	8.7 (1.76)	8.47 (1.6)	8.26 (1.65)	0.13 (1.13)	3.06 (1.57)	2.93 (1.49)	2.71 (1.52)
Median (IQR)	3 (1.5)	6 (3)	7 (3)	7 (3)	5 (2)	8 (2)	9 (1.75)	8 (2)	0 (1.5)	3 (2.25)	3 (1.75)	3 (1)
Range: Min -Max	0 -4	4 -11	4 -11	4 -11	3 -7	5 -12	5 -11	5 -11	-2 -2.5	0 -6	0 -6	0 -6

Table 2:

term	LF difference			PA difference			MRD1 difference		
	1 month	3 months	6 months	1 month	3 months	6 months	1 month	3 months	6 months
Avg (SD)	4.26 (1.6)	5 (1.75)	5.03 (1.72)	3.56 (1.75)	3.33 (1.65)	3.11 (1.68)	2.93 (1.7)	2.8 (1.59)	2.59 (1.6)
Median (IQR)	4 (2)	5 (2)	5 (2)	3.5 (2.75)	3 (1)	3 (1.75)	3 (2.25)	3 (2)	2.5 (1.75)
Range: Min -Max	1 -8	1 -8	1 -8	0 -7	0 -7	0 -7	0 -7	0 -6	0 -5

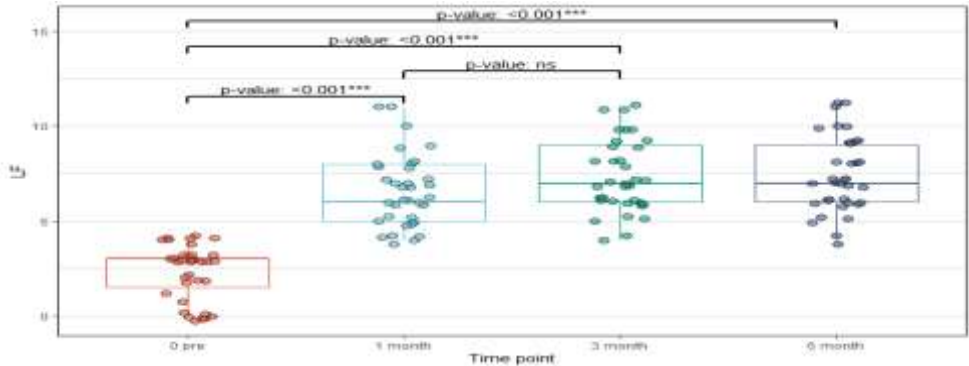


Figure1:

Comparing LF per time points



Figure 2: Showing A case with poor levator function pre and post operative (levator dissection resection OD) with improved levator function and symmetry in vertical gazes.

Conclusion

The technique of maximal levator resection with freeing levator fibrous attachments offers comparable functional and aesthetic outcomes with fewer complications and long-term stability compared to the frontalis sling procedure, making it a valid and effective alternative for managing congenital ptosis with poor levator function.

The surgical technique of freeing levator fibrous attachments significantly improved eyelid excursion in patients with congenital ptosis and poor levator function and had a low incidence of lagophthalmos after 6 months.