

Ptosis Repair with Additional Blepharoplasty

Qirat Qurban¹, Zeeshan Kamil², Khalid Mahmood³
¹⁻³Khalid Eye Clinic, Nazimabad, Karachi

ABSTRACT

Purpose: To share the results of Levator resection with additional blepharoplasty in patients with ptosis.

Study Design: Interventional case series.

Place and duration of study: This study was carried out at Khalid eye clinic, Karachi, from January 2019 to June 2019.

Methods: We recruited twelve patients belonging to either gender with ages ranging from 18 to 35 years. Patients with moderate to severe ptosis with fair to good Levator function were included in the study. Whereas, patients with previous history of eyelid procedure or any bleeding diathesis were excluded. All patients were briefed about the study dynamics and complete ocular examination along with ptosis evaluation were performed. Levator resection was done with additional blepharoplasty. The amount of skin removal was solely dependent upon the surgeon's clinical judgment. Main outcome measure was cosmetic appearance by assessing the vertical fissure height as compared to the contra lateral eye, and the amount of overhanging skin at the lid crease as judged by the patients and the oculoplastic surgeon.

Result: This study included thirteen eyes of both genders with a mean age of 23.7±4.19 years. Twelve out of thirteen eyes had a satisfactory final cosmetic appearance, and were also graded as excellent by another oculoplastic surgeon. One patient required revision of surgery for the overhanging skin at the lid crease.

Conclusion: Additional blepharoplasty with Levator resection can be a good option for ptosis correction and it provides a good aesthetic appearance.

Key Words: Ptosis, Levator resection, Blepharoplasty.

How to Cite this Article: Qurban Q, Kamil Z, Mahmood K. Ptosis Repair with Additional Blepharoplasty. Pak J Ophthalmol. 2022, 38 (2): 147-150.

Doi: 10.36351/pjo.v38i2.1096

*Correspondence: Qirat Qurban
Khalid Eye Clinic, Nazimabad, Karachi
Email: Qirat_89@hotmail.com*

*Received: July 07, 2020
Accepted: March 27, 2021*

INTRODUCTION

One of the most frequent eyelid procedures, Blepharoplasty, corrects the deformities and disfigurement of the eyelids for functional and cosmetic reasons. It is usually performed by oculoplastic surgeons in patients who require repositioning after removal of excess skin and fat tissue to give a more aesthetically pleasing appearance. The commonest indication for ptosis

surgery is visual compromise due to ptotic upper eyelids as the patient frequently complains of loss of peripheral vision due to the excess skin overhanging the eyelid margin and obscuring vision like a window shade. This condition improves by physically lifting the eyelids with fingers or forehead muscle. Perimetry can be performed to assess the loss of visual field.¹ The normal eyelid margin rests 3.5 to 4.5 mm above the central pupil, whereas in functional ptosis, it rests 2.5 mm or less, above the central pupil. Ptosis should be corrected while performing blepharoplasty because sometimes it becomes more apparent after blepharoplasty due to eyelid debulking. In most instances, the upper eyelids are droopy or ptotic, so ptosis procedure is combined with an upper eyelid blepharoplasty. With an additional procedure, the Levator aponeurosis is repositioned on the tarsal plate,

and the upper eyelid height is set compared to the fellow eye. Once the upper eyelid height is positioned, the excess skin and fat are removed to give a more youthful look. Blepharoplasty is indicated for functional reasons where the upper eyelid fat, orbicularis hypertrophy or laxity, skin laxity and lash ptosis may affect the patient's visual field.² The causes may include Levator dehiscence due to age, infections, trauma, tumors or inflammation as well as less common causes such as myasthenia gravis, trauma, orbital or eyelid tumors, congenital ptosis, third nerve palsy or Horner syndrome. Therefore, it is of importance that Levator status is evaluated before ptosis repair is attempted.³

This study was done with the aim to share the cosmetic outcome of performing additional blepharoplasty in patients undergoing ptosis repair.

METHODS

This study was conducted at Khalid eye clinic, Karachi, from January 2019 to June 2019. Approval was obtained from the ethical review committee and we recruited twelve patients of both genders with ages ranging from 18 to 35 years. Inclusion criteria comprised of moderate to severe ptosis with fair to good Levator function whereas patients with history of lid surgery or any bleeding disorder were excluded from this study. All patients were counseled about the nature of the study dynamics and the surgical procedure and informed verbal consent was taken from each patient. Patients were encouraged to voice their desires and concerns regarding the aesthetic appearance and functional features of their eyelids and to inform the surgeon about their desired outcome in the initial assessment following which, ptosis and other ocular examination was carried out. Old photographs were used in some patients to determine the patient's upper eyelid fold configuration to serve as a guidepost. Pre and post-operative photographs were taken to compare the cosmetic improvement in each patient. Main outcome measure was cosmetic appearance by assessing the vertical fissure height as compared to the contra lateral eye and the amount of overhanging skin at the lid crease as judged by the patients and the oculoplastic surgeon. It was graded as excellent if the difference between the two eyes was ≤ 1.0 mm post operatively.

All surgeries were done under general anesthesia. Each patient underwent a standard ptosis repair

procedure with Levator resection and the required amount of Levator resection was done with an additional blepharoplasty by one oculoplastic surgeon (QQ) in all the patients. The amount of skin removal was solely dependent upon the surgeon's clinical judgment on each patient individually. After marking the skin and making the initial incision, the required amount of skin was removed and orbicularis muscle was dissected with scissors not extending down to the orbital septum. Once the excision of skin and dissection of the muscle was complete, the orbital septum was opened from medial to lateral side. The lateral, middle and medial fat pads were identified followed by cattery of the base to maintain a good hemostasis. Excess fat was removed to yield a better defined upper lid crease. The aponeurosis and Levator muscle were identified. The aponeurosis was cut transversely with scissors at the mid-tarsal plate level. 6 – 0 Vicryl sutures were passed through skin including the orbicularis muscle to form a lid crease and the lid level was checked compared to the contralateral eyelid. Closure of the upper lid wound was performed with a 6 – 0 Vicryl suture followed by ophthalmic ointment and gauze pads on the upper lid area to prevent opening.

RESULTS

This study included thirteen eyes of twelve patients of both genders with a mean age of 23.7 ± 4.19 years. There were eight (61.54%) female eyes and five (38.46%) male eyes. Right eye was involved in seven patients and left eye in six. Twelve out of thirteen eyes had a satisfactory final cosmetic appearance and graded as excellent by the oculoplastic surgeon. One patient required revision surgery for the overhanging skin at the lid crease. Mean follow up period was 131.1 ± 8.7 days.

DISCUSSION

Functional and cosmetic concerns are the main indications for the patient and a surgeon to opt for blepharoplasty in addition to ptosis correction which is usually performed by an oculoplastic surgeon. Studies have shown that impairment of the visual field due to ptosis and overhanging skin in the primary position and down gaze serves as a functional indication for surgical repair.^{4,5} Procedures have been fashioned in such a way to safely achieve ptosis correction along with removal of the excessive skin.^{6,7} Two case series

were done which documented a significant improvement in the visual field and quality of life.^{8,9} Waller et al¹⁰ reported visual field impairment in down gaze due to Ptosis which was subsequently reported in other peer-reviewed publications.^{11,12}

In this study, thirteen eyes of twelve patients underwent Levator resection for Ptosis repair followed by additional blepharoplasty. Twelve eyes out of the thirteen had an excellent final cosmetic outcome with an adequate palpebral fissure height comparable to the fellow eye and the patients were very pleased with the results. Only one eye required a revision surgical procedure due to the overhanging skin at the lid crease. Additional blepharoplasty with ptosis correction via Levator resection significantly improves the superior field of vision, both in primary gaze and reading gaze with a reported qualitative enhancement in reading vision, comfort and visible aesthetic appeal in the period after surgery. Battu et al and Federici et al observed the quality of life in larger populations in relation to the significant association between visual field impairment and difficulty with driving activities, sense of dependency, mental health, subjective distance vision, and peripheral vision.^{8,9} Very few studies have been done to observe the impairment caused by dermatochalasis or overhanging skin. Hacker and Hollsten reported dermatochalasis leading to impairment of visual field in patients who underwent upper eyelid blepharoplasty surgery.¹³ Another study showed that patients undergoing upper eyelid blepharoplasty experienced blurred vision but this complaint was not found in any of the patients in this study.¹⁴ Ophthalmologists have also noticed refractive changes in patients undergoing eyelid repositioning.¹⁵ We did not observe this in our study.

Previous data has shown that blepharoplasty improved the superior field of vision but did not eliminate the visual field impairment caused by ptosis.^{16,17} In such patients, there was superior visual field defect even after Blepharoplasty. Temporal visual field loss has not been widely discussed but it frequently accompanies the superior visual field loss caused by Ptosis and dermatochalasis.^{16,17} This contributes to the functional and cosmetic disability as documented in population studies of quality of life impairment.¹⁸⁻²⁰

This study was limited in terms of the small sample size of patients undergoing ptosis repair with additional blepharoplasty and the surgical and

cosmetic outcome relied on the patient's preference and satisfaction level.

CONCLUSION

Ptosis and dermatochalasis independently impair visual field and patient's physical aesthetic well-being which increase with more severe upper eyelid malposition. Additional blepharoplasty with Ptosis correction provides a significant functional and an excellent cosmetic outcome.

Ethical Approval

The study was approved by the Institutional review board/Ethical review board (ERC-13-20).

Conflict of Interest

No conflicting relationship exists for any author.

REFERENCES

1. **Kim MJ, Oh TS.** Treatment for ophthalmic paralysis: functional and aesthetic optimization. *Arch Craniofac Surg.* 2019; **20** (1): 3-9. Doi: 10.7181/acfs.2019.00066.
2. **Weaver DT.** Current management of childhood ptosis. *Curr Opin Ophthalmol.* 2018; **29** (5): 395-400.
3. **Liu CY, Chhadva P, Setabutr P.** Blepharoptosis repair. *Curr Opin Otolaryngol Head Neck Surg.* 2018; **26** (4): 221-226.
4. **Dryden RM, Kahanic DA.** Worsening of blepharoptosis in downgaze. *Ophthal Plast Reconstr Surg.* 1992; **8**: 126–129.
5. **Meyer DR, Linberg JV, Powell SR, Odom JV.** Quantitating the superior visual field loss associated with ptosis. *Arch Ophthalmol.* 1989; **107**: 840–843.
6. Altieri M, Truscott E, Kingston AE, Bertagno R, Altieri G. Ptosis secondary to anterior segment surgery and its repair in a two-year follow-up study. *Ophthalmologica.* 2005; **219** (3): 129-135. doi:10.1159/000085244
7. **Shore JW, Bergin DJ, Garrett SN.** Results of blepharoptosis surgery with early postoperative adjustment. *Ophthalmology.* 1990; **97**: 1502–1511.
8. **Battu VK, Meyer DR, Wobig JL.** Improvement in subjective visual function and quality of life outcome measures after blepharoptosis surgery. *Am J Ophthalmol.* 1996; **121**: 677–686.
9. **Federici TJ, Meyer DR, Lininger LL.** Correlation of the vision-related functional impairment associated with blepharoptosis and the impact of blepharoptosis surgery. *Ophthalmology.* 1999; **106**: 1705–1712.

10. **Waller RR, McCord CD Jr, Tanenbaum M.** Evaluation and management of the ptosis patient. In: McCord CD Jr, Tanenbaum M, eds. *Oculoplastic Surgery*. 2nd ed. New York: Raven Press; 1987: 325–376.
11. **Meyer DR, Rheeman CH.** Downgaze eyelid position in patients with blepharoptosis. *Ophthalmology*, 1995; **102**: 1517–1523.
12. **Olson JJ, Putterman A.** Loss of vertical palpebral fissure height on downgaze in acquired blepharoptosis. *Arch Ophthalmol*. 1995; **113**: 1293–1297.
13. **Hacker HD, Hollsten DA.** Investigation of automated perimetry in the evaluation of patients for upper lid blepharoplasty. *Ophthal Plast Reconstr Surg*. 1992; **8**: 250–255.
14. **Adamson PA, Constantinides MS.** Complications of blepharoplasty. *Facial Plast Surg Clin North Am*. 1995; **3**: 211–221.
15. **Wilson G, Bell C, Chotai S.** The effect of lifting the lids on corneal astigmatism. *Am J Optom Physiol Opt*. 1982; **59**: 670–674.
16. **Cahill KV, Burns JA, Weber PA.** The effect of blepharoptosis on the field of vision. *Ophthal Plast Reconstr Surg*. 1987; **3**: 121–125.
17. **Meyer DR, Stern JH, Jarvis JM, Lininger LL.** Evaluating the visual field effects of blepharoptosis using automated static perimetry. *Ophthalmology*, 1993; **100**: 651–659.
18. **Freeman EE, Munoz B, Rubin G, West SK.** Visual field loss increases the risk of falls in older adults: the Salisbury Eye Evaluation. *Invest Ophthalmol Vis Sci*. 2007; **48**: 4445–4450.
19. **Black AA, Wood JM, Lovie-Kitchin JE, Newman BM.** Visual field loss and falls among older adults with glaucoma. *Invest Ophthalmol Vis Sci*. 2008; **49**: E5458.
20. **Cocchiarella L, Anderson GBJ, eds.** *The visual system*. In: *Guides to the Evaluation of Permanent Impairment*. 5th ed. Chicago, IL: American Medical Association, 2000: 277–304.

Authors' Designation and Contribution

Qirat Qurban; Consultant Ophthalmologist:
Concepts, Design, Literature search, Data analysis, Statistical analysis, Manuscript preparation, Manuscript editing.

Zeeshan Kamil; Consultant Ophthalmologist:
Concepts, Design, Literature search, Data analysis, Statistical analysis, Manuscript preparation, Manuscript editing.

Khalid Mahmood; Consultant Ophthalmologist:
Data acquisition, Manuscript review.

