

SURGICAL CORRECTION OF THE UPPER EYELID: CLINICAL EXPERIENCE AND ANALYSIS OF RESULTS

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Abstract

The article presents the experience of performing upper blepharoplasty in the plastic surgery department of the Tashkent Medical Academy's multidisciplinary clinic for the period 2020-2024. An analysis of 320 cases of surgical correction of the upper eyelid was conducted, taking into account the anatomical, age-related, and functional characteristics of the patients. Indications for surgery, marking methods, and stages of surgical intervention are described. Special attention is given to the principles of preoperative preparation and individualization of surgical approach. The importance of a comprehensive approach to the correction of the periorbital area for achieving aesthetic and functional results is emphasized. The presented data confirm the high effectiveness of the technique, provided that the standardized patient management algorithm is followed.

Keywords: Blepharoplasty, upper eyelid, periorbital area, dermatochalasis, fat hernia, orbicularis oculi muscle, aesthetic surgery, preoperative preparation, surgical tactics, facial plastic surgery.

Introduction

Aesthetic blepharoplasty is one of the most delicate and technically complex facial interventions, requiring an individualized approach based on the patient's anatomical and ethnic characteristics. The expression of the eyes and the overall facial impression directly depend on the condition of the eyelids and periorbital tissues. It is well-known that eyelid skin is the thinnest in the body and rapidly undergoes age-related changes, leading to dermatochalasis, fat herniation, pseudoptosis, and functional disorders, including visual field narrowing. Upper eyelid blepharoplasty remains one of the most sought-after aesthetic surgeries, especially among patients over 40 years old who exhibit age-related changes in the periorbital area. The condition of the upper eyelid directly affects eye expression, visual perception of age, and even functional parameters such as the visual field [1, 4].

The skin of the eyelids is the thinnest in the body, making it susceptible to photoaging, gravitational ptosis, and loss of elasticity. Furthermore, the periorbital region contains anatomically complex structures: the orbicularis oculi muscle, the orbital septum, and fat pads, which are also subject to age-related changes [2, 5].





From an aesthetic perspective, upper eyelid hooding (dermatochalasis), protrusion of orbital fat pads, orbicularis muscle hypertrophy, and pseudoptosis often occur in combination and require a comprehensive approach. Functionally, excess skin can lead to restricted visual fields, eye fatigue, and increased forehead muscle tension, particularly in elderly patients [3, 6].

In recent years, improved methods for diagnosis and surgical planning have been introduced into clinical practice. The use of 3D photogrammetry, soft tissue ultrasound, and even AI algorithms allows for more precise determination of the intervention scope and prediction of aesthetic outcomes [7, 9]. There is also growing interest in ethnically tailored blepharoplasty, especially for patients of Asian phenotype, where the upper eyelid crease may be absent or poorly defined [4, 8].

The aim of this study is to analyze surgical outcomes and develop tactical approaches to upper eyelid blepharoplasty based on the experience of the plastic surgery department at the TMA multidisciplinary clinic.

Materials and methods of research. From 2020 to 2024, upper blepharoplasty was performed on 320 patients in the plastic surgery department of the Tashkent Medical Academy's multidisciplinary clinic. Of the total number of operated patients, 280 were women (88%) and 40 were men (12%). The patients' ages ranged from 16 to 70 years, with an average age of 44.7 ± 9.3 years. The predominance of female patients corresponds to general global trends, where aesthetic eyelid surgery is more frequently sought by women [4, 6].

Preoperative stage: All patients underwent standard preoperative preparation in accordance with international recommendations for ensuring the safety of aesthetic operations. This included: clinical and laboratory tests (complete blood count, urinalysis, coagulation profile, biochemical profile); ECG and consultations with an internist as indicated; photographic documentation from the front and in three projections for subsequent analysis; discontinuation of medications that increase the risk of bleeding (anticoagulants, antiplatelet agents, NSAIDs) 7-10 days before surgery. Additionally, patients with signs of dry eye syndrome underwent ophthalmological examination to prevent postoperative complications such as xerophthalmia.

Indications for surgery: Absolute indications for upper blepharoplasty included: excess upper eyelid skin (dermatochalasis) impeding eye opening; protrusion of orbital adipose tissue creating a visual effect of swelling and "heavy eyelids"; hypertrophy of the orbicularis oculi muscle masking the upper eyelid crease; pronounced asymmetry of skin folds; and complaints of reduced visual field (in 38% of cases, verified perimetrically).

Patients' psycho-emotional state and motivation were also evaluated: blepharoplasty is indicated only in cases of realistic aesthetic expectations, absence of body dysmorphic disorder, and stable mental status.

Marking and surgical access technique: Marking was performed with the patient seated and gazing naturally. The lower line was drawn 4-8 mm from the lash line, depending on skin thickness, orbital septum position, and age-related changes. The upper line was determined 8-10 mm above the lower line, starting from the eyebrow arch. The skin flap width was 1-2 cm. The skin incision length ranged from 3.5 to 5 cm. It extended from the medial canthus to the lateral edge of the eyebrow in an arc-shaped line (the "boat" variant), ensuring a natural and concealed scar [9].





Surgical technique: The operation was performed under local infiltration anesthesia with a 1% lidocaine solution containing adrenaline (1:200,000). The main stages of the intervention included: skin incision along the designated line, soft tissue dissection with excision of the skin-subcutaneous flap, assessment of the orbital septum condition, and removal of excess adipose tissue (in the medial, central, and lateral sections). Partial resection of the m. orbicularis oculi in the outer third of the eyelid in case of its hypertrophy (preventing the "hollowness" of the upper eyelid). Symmetry control and eye opening test involving the patient (visual check in a mirror). Application of an intradermal cosmetic suture using Prolene 5/0 thread according to the "running subcuticular suture" technique. Aseptic dressing and cold application in the early postoperative period.

Each operation was accompanied by step-by-step photographic documentation and logging of surgical data for subsequent analysis (Figure 1).



Figure 1

Research Results

A clinical analysis of 320 cases of upper blepharoplasty revealed that pronounced drooping of the upper eyelid skin, accompanied by functional impairment of the visual field, was detected in 130 patients (40.6%), predominantly in the older age group. These patients complained of eye fatigue, the need for compensatory eyebrow elevation, and limited peripheral vision, especially in the upper-lateral quadrants. In 243 patients (75.9%), bulging of the orbital adipose tissue was detected, predominantly in the medial and central areas, and in 172 (53.7%) - hypertrophy of the orbicularis oculi muscle, which was confirmed intraoperatively. The combination of all three factors - dermatochalasis, fat herniation, and muscle hypertrophy - was observed in 128 patients (40%).

Isolated removal of excess skin in such cases led to incomplete aesthetic results: the prominence of periorbital volume and disruption of the fold line persisted. The most pronounced effect was achieved with a comprehensive approach, including:

- excision of excess skin while maintaining anatomical proportions between the supraorbital arch and the palpebral fissure;
- removal of fat herniation within the lateral and medial portions of the orbital septum;
- selective resection of the orbicularis oculi muscle (in lateral areas) in the presence of pronounced hypertrophy.

Evaluation of the results was conducted 3-4 weeks after the intervention, at the end of the primary recovery period. Periorbital tissue edema was observed in all patients in the early postoperative period, reaching its peak on days 2-3. By days 8-10, most patients showed a significant decrease in swelling and bruising, which coincided with the removal of sutures (on days 5-7).



All patients underwent photographic documentation before and after surgery, which allowed for a retrospective visual assessment of the aesthetic results (Fig. 2). In 89% of cases, patients and doctors rated the outcome as "excellent," in 9% as "good," and in 2% as "satisfactory" (in cases of slight asymmetry or residual edema at later stages of follow-up).

The average duration of full rehabilitation (including return to a socially active appearance) was 14-21 days.



Fig. 2

Conclusions:

1. Surgical correction of the upper eyelid (upper blepharoplasty) is a highly effective method for eliminating age-related and anatomical changes in the periorbital area, providing not only a pronounced aesthetic but also a functional result.
2. Conducting a comprehensive preoperative assessment with an analysis of the skin condition, orbicularis oculi muscle, orbital fat, and eyelid function allows for individualization of the intervention plan and optimization of tissue resection volume.
3. The most predictable result is achieved when using a combined methodology that includes excising excess skin, removing fat hernias, and selective resection of the orbicularis oculi muscle, especially in cases of pronounced hypertrophy and smoothness of the eyelid fold.
4. In the postoperative period, minimal and reversible complications (swelling, hematomas, moderate discomfort) prevailed, which regressed within the first 7-10 days. The average rehabilitation period was 2-3 weeks.
5. To minimize the frequency of postoperative complications, strict adherence to aseptic principles, gentle dissection techniques, accurate assessment of symmetry during surgery, and a structured patient management algorithm at all stages of treatment are required.
6. Upper blepharoplasty requires high qualifications of the surgeon, knowledge of individual anatomical variations, and ability for intraoperative adaptation, which is a determining factor in achieving a stable and aesthetically pleasing result.

References

1. Kagan I.I., Kanyukov V.N., Trubina O.M. Features of the morphological structure and the possibility of surgical correction of the shape and parameters of the palpebral fissure // Vestnik OGU. - 2014. - No. 3. - P. 159-163.



2. Fincher EF. Blepharoplasty // In: Moy RL (ed.). Facial Plastic and Reconstructive Surgery. Elsevier, 2019. - P. 121-139.
3. Frishberg I.A. Current issues of plastic and aesthetic surgery. - 2001. - P. 52-53.
4. Wong CH, Hsieh MK, Mendelson B. Upper lid blepharoplasty: contemporary perspectives. Clin Plast Surg. 2020;47 (1):105-118.
5. Naik MN, Murthy R. Imaging evaluation of periocular region in cosmetic surgery. Indian J Ophthalmol. 2021;69 (6):1359-1365.
6. Kikkawa DO, Korn BS. Functional aspects of blepharoplasty. Curr Opin Ophthalmol. 2020;31 (5):389-395.
7. Ziegler A, Krishnan R. Use of artificial intelligence in blepharoplasty planning. Aesthet Surg J. 2022;42 (9):NP503-NP510.
8. Park DH, Jeong EC. Ethnic considerations in blepharoplasty. Arch Aesthetic Plast Surg. 2023;29 (1):1-8.
9. Porkhanov V.A., Baranov A.N. Comprehensive diagnostics and modeling in aesthetic blepharoplasty // Plastic Surgery and Cosmetology. - 2023. - No. 2. - P. 48-53.

