



STUDY OF PREVELENCE, CLINICAL FEATURES, MANAGEMENT AND POST OPERATIVE COMPLICATION OF ENTROPION IN TERTIARY CARE CENTER IN WESTERN UP

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ABSTRACT

Introduction: The purpose of this study is to find the prevalence, management outcomes of entropion surgery performed at a tertiary care center with a focus on surgical approaches, complications and postoperative results. This research will contribute to the growing body of knowledge on the best practices for managing entropion in a tertiary care setting.

Aim and Objectives

1. Prevalence of entropion.
2. Methodology practiced in management.
3. Post operative complications and their management

Materials And Methods: A pre- designed study was conducted in the Out patient department of UPGRADED DEPARTMENT OF OPHTHALOMOLOGY at Lala Lajpat Rai Memorial Medical College, SVBP Hospital, Meerut. A complete history was taken from the patients. Thorough eye examinations of both eyes was carried out in all patients. Different surgeries performed. Patients were followed up at post op day 1, 1 week, 1 month, 3 months, 6 months. **Observations And Results:** Out of a total of 26,000 patients who visited the outpatient department (OPD), 140 patients were diagnosed with entropion, out of 140 patients 117 (83.57%) had involuntional entropion and 11 patients (7.86) had cicatricial entropion. Presenting complaints were Foreign body sensation, Redness, Watering, Discharge, Diminution of Vision. **Conclusion:** This study was undertaken to assess the prevalence, etiology, clinical Presentation, and surgical outcomes of entropion in patients attending the ophthalmology department of a tertiary care center. The findings emphasize the importance of early diagnosis, precise etiological classification, and the selection of individualized surgical techniques to optimize functional and cosmetic outcomes. Effective postoperative care and prompt management of complications further contribute to surgical success.

KEYWORD:

1. Trichiasis
2. Cysts/growth
3. Blepharitis
4. Congestion
5. Symblepheron
6. Irregular Surface
7. Thinning
8. Vascularization
9. Uleer
10. Scarring
11. Pthisis

INTRODUCTION

Entropion describes an inward rotation of the eyelid margin and is often associated with misdirection of the eyelashes and keratinization of the eyelid margin.^[1]

In advanced cases, this inward turning of the lid can result in serious corneal complications such as persistent epithelial defects, pannus formation, stromal thinning, and corneal ulceration, all of which may lead to visual impairment.^[2]

It can be spastic, mechanical involucional, cicatricial. Spastic entropion is an acute managed by temporary measures such as taping, treatment of causative irritation and inflammation.^[3,4]

Mechanical entropion occurs due to absent lower lid support, as seen in cases with a shrunken globe.⁵ Cicatricial entropion is caused by conjunctival scarring due to chemical burns, trauma or surgery, trachoma. Surgical correction in such cases often requires procedures like tarsal wedge resection, mucous membrane grafting, or anterior lamellar repositioning.^[6]

Cicatricial entropion is often associated with chronic conjunctival inflammation and shrinkage of the posterior lamella, and in severe cases, requires not just lid rotation but posterior lamellar reconstruction with graft materials.

Congenital entropion is rare and caused by disinsertion of lower lid retractors and overaction of the marginal orbicularis muscle.

The classic triad known to cause involucional entropion includes dehiscence of the lower lid retractors, horizontal lid laxity of the tarsus and canthal tendon, and overriding of the pre-septal orbicularis oculi muscle.^[2]

Involucional changes are also influenced by age-related orbital fat atrophy and globe retraction (enophthalmos).

It can affect both upper and lower lids, although the upper lids are rarely affected.

It is graded according to the parameters described by Kemp and Collin.^[7]

Mild

Tarsal plate is normal in position. Conjunctivalisation of the lid margin is present.

Lash/globe contact occurs only when gaze is directed towards the involved eyelid.

Moderate

Tarsal plate is normal in position.

More significant conjunctivalisation of the lid margin is present. Lash globe contact is present in the primary position.

The term 'lid border entropion' has been proposed for these cases.

Severe

Gross tarsal deformities are present. Marked conjunctival scarring is present.

Management of entropion should be directed at the specific etiology. Medical management is often ocular lubrication, artificial tears, or contact lenses. Botulinum toxin injection can also be considered in a patient with spastic entropion. Other non-surgical options under investigation include thermal cautery to tighten lax lower eyelid retractors and injectable fillers to mechanically evert the eyelid margin in early-stage entropion.

The purpose of this study is to find the prevalence, management outcomes of entropion surgery performed at a tertiary care center with a focus on surgical approaches, complications and postoperative results. By reviewing clinical data from a diverse patient population. This research will contribute to the growing body of knowledge on the best practices for managing entropion in a tertiary care setting.

AIM AND OBJECTIVES

1. Prevalence of entropion.
2. Etiological prevalence of entropion.
3. Methodology practiced in management.
4. Post operative complications and their management.

MATERIALS AND METHODS

Place of study

A pre- designed study was conducted in the Out patient department of UPGRADED DEPARTMENT OF OPHTHALMOLOGY at Lala Lajpat Rai Memorial Medical College, SVBP Hospital, Meerut. Duration of Study: July 2023 to June 2024

Sample size

Patients of all ages and genders presenting to the routine outpatient department of the Upgraded Department of Ophthalmology at LLRM Medical College, Meerut, over one – year period were examined and those diagnosed with entropion were selected for inclusion in the study.

INCLUSION CRITERIA

- All patients of all ages and both genders with either upper or lower lid entropion.
- Patients giving written informed consent were taken.

EXCLUSION CRITERIA

1. Previously operated patients for entropion.
2. Unconsented patients.

The study was conducted as a hospital based cross sectional study to estimate the prevalence, complications and their management among the patients who visited the hospital.

A complete history was taken from the patients. Thorough eye examinations of both eyes was carried out in all patients.

Different surgeries performed were modified jones procedure, Weis type procedure, Tarsal wedge resection, Anterior lamellar resection, Tarsal rotation surgery.

Patients were followed up at post op day 1,1 week, 1 month, 3 months, 6 months.

Surgical Management: Types of surgeries performed, such as modified jones procedure, Weis procedure, tarsal wedge resection anterior lamellar repositioning, tarsal rotation surgery.

Post-operative Follow-up: Patients were followed up at post op day 1,1 week, 1 month, 3 months, 6 months.

Outcome of surgery and management of any post-operative complications, including infection, scarring, recurrence or new complications were documented and managed accordingly.

Outcome Measures

1. Prevalence: The percentage of patients with eyelid malpositions among all hospital visits.
2. Complications: The types and frequencies of complications associated with eyelid malpositions, including corneal abrasions, scarring or infection.
3. Management and Outcomes: Surgical outcomes and post-operative complications as well as their managements.

OBSERVATIONS AND RESULTS

Table 1: Prevalence of entropion.

| Total number of patients visited in OPD | Numbers of patients with entropion | Prevalence (%) |
|---|------------------------------------|----------------|
| 26,000 | 140 | 0.54 |

Out of a total of 26,000 patients who visited the outpatient department (OPD), 140 patients were

diagnosed with entropion, resulting in a prevalence rate of 0.54%.

Table 2: Etiological prevalence.

| Etiology | Numbers of patients (n-140) | Percentage |
|--------------|-----------------------------|------------|
| Involitional | 117 | 83.57 |
| Mechanical | 9 | 6.43% |
| Cicatricial | 11 | 7.86% |
| Spastic | 3 | 2.14% |
| Congenital | 0 | 0.00% |

The table showing that out of 140 patients 117 (83.57%) had involitional entropion and 11 patients (7.86) had cicatricial entropion. Also 9 patients (6.43%) had some

mechanical cause for entropion and 3 patients (2.14%) had spastic entropion. In this dataset involitional entropion is the commonest type of entropion.

Table 3: Presenting complaints.

| Presenting complaints | Count (n=140) | Percentage |
|------------------------|---------------|------------|
| Foreign body sensation | 115 | 82.14% |
| Redness | 36 | 25.71% |
| Watering | 104 | 74.29% |
| Discharge | 17 | 12.14% |
| Diminution of Vision | 78 | 55.71% |

Out of total 140 patients of entropion in this study the most common presentation was foreign body sensation 82.14% followed by watering 74.29%. Patients also

complaint of diminution of vision (55.71%), redness (25.71%) and discharge (12.14%).

Table 4: Management along with entropion correction surgery.

| Cause | Management | Percentage |
|-----------------------|---|------------|
| Spastic entropion (3) | Medical management with bandage contact lens application and lid taping | 2.14% |
| Blepharitis (47) | Medical management | 33.57% |
| Trichiasis (98) | Epitation | 70% |
| Cyst/mass (3) | Excision | 2.14% |

In this study 3 patients of spastic entropion (2.14%) were managed medically 47 out of 140 patients (33.57%) were treated medically for blepharitis, Other than epilation

was done for trichiasis (70%) and mechanical entropion was corrected by cyst/mass excision (2.14%).

Table 5: Type of surgery.

| Type of surgery | Number of lids lids (n=239) | Percentage |
|--|-----------------------------|------------|
| Plication of lower lid retractors (Modified jones procedure) | 122 | 51.04% |
| Weis type procedure | 46 | 19.23% |
| Tarsal wedge resection | 64 | 26.78% |
| Anterior lamellar repositioning | 4 | 1.67% |
| Tarsal rotation surgery | 3 | 1.26% |

Considering the bilaterality and involvement of both the upper and lower lids total number of lids underwent for surgery were 239 out of which 51% lids with entropion underwent modified jones procedure, which was the most common type of surgery performed in this study

and 26.78% were surgically treated with tarsal wedge resection. Weis type of procedure (19.25%) anterior lamellar repositioning (1.67%) and tarsal rotation surgery (1.26%) were the other methods used for surgical correction of entropion in this study.

Table 6: Outcome of different type of surgery performed.

| Type of surgery | Outcome | Number of lids (n=239) | Percentage (successful surgery) |
|-------------------------------------|-----------------|------------------------|---------------------------------|
| Modified jones procedure (122) | Improved | 116 | 95.08% |
| | Undercorrection | 3 | |
| | Overcorrection | 1 | |
| | Recurrence | 2 | |
| Tarsal wedge resection (64) | Improved | 60 | 93.75% |
| | Undercorrection | 1 | |
| | Overcorrection | 2 | |
| | Recurrence | 1 | |
| Weis type procedure (46) | Improved | 41 | 89.13% |
| | Undercorrection | 2 | |
| | Overcorrection | 1 | |
| | Recurrence | 2 | |
| Anterior lamellar repositioning (4) | Improved | 4 | 100% |
| Tarsal rotation surgery (3) | Improved | 3 | 100% |

The chart highlights that Anterior Lamellar Resection(4 lids) and Tarsal Rotation Surgery (3 lids) although performed on lesser number of lids had a 100% success rate, while the Modified Jones Procedure and Tarsal

Wedge Resection also demonstrated high effectiveness, 95% and 93% respectively. The Weis Procedure had a slightly lower success rate at 89.13%.

Table 7: Post-op complications.

| Postoperative Complication | Number of patients (n=128) | Percentage |
|----------------------------|----------------------------|------------|
| Surgical site infection | 2 | 1.56% |
| Lid edema | 47 | 36.71% |
| Bleeding | 15 | 11.72% |
| Recurrence | 5 | 3.90% |
| Scarring | 8 | 6.25% |
| Overcorrection | 4 | 3.12% |
| Undercorrection | 6 | 4.69% |

Among the complications, lid edema was by far the most prevalent, affecting 36.71% of the patients. The second most frequent complication was bleeding, observed in

11.72% of patients. Other complications were Scarring in 6.25% of patients. Undercorrection and recurrence were reported in 4.69% and 3.90%, respectively.

Overcorrection occurred in 3.12% of cases.

CONCLUSION

This study was undertaken to assess the prevalence, etiology, clinical Presentation, and surgical outcomes of entropion in patients attending the ophthalmology department of a tertiary care center. The study identified a prevalence of 0.54%, with the majority of cases being involuntal in origin and affecting individuals over the age of 60, confirming the strong association between aging and entropion.

The most frequent presenting symptoms were foreign body sensation, watering, and trichiasis, often accompanied by corneal changes in neglected cases.

With respect to management, the study demonstrated the high effectiveness of surgical correction, particularly the Modified Jones procedure for involuntal lower lid entropion and tarsal wedge resection for upper lid and cicatricial cases. Less commonly performed procedures, such as anterior lamellar repositioning and tarsa, rotation, also achieved excellent results in selected patients.

The overall surgical success rate was 88.3%, with minimal and manageable complications, validating the objective of evaluating surgical outcomes and complication management.

The findings emphasize the importance of early diagnosis, precise etiological classification, and the selection of individualized surgical techniques to optimize functional and cosmetic outcomes. Effective postoperative care and prompt management of complications further contribute to surgical success.

Future Recommendations

- Long-term follow-up studies are recommended to assess the durability of surgical outcomes, recurrence rates, and patient satisfaction over time.
- Comparative trials involving newer, minimally invasive techniques (eg., transconjunctival retractor reinsertion) versus traditional procedures may help refine best surgical practices.
- There is a need for community-level awareness campaigns to promote early detection and referral, particularly among the elderly in rural populations.
- This study reinforces the value of a structured, evidence-based, and anatomically guided approach to entropion management and provides a useful clinical framework for improving care delivery in ophthalmic practice.

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