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Basal Cell Carcinoma of the Right Lower Eyelid Managed by Wide Local Excision and Mustarde Cheek Rotation Flap: A Case Report.

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ABSTRACT
Basal Cell Carcinoma (BCC) is the most common malignant neoplasm of the skin, representing approximately 80% of all non-melanoma skin cancers globally. Although BCC predominantly affects sun-exposed areas, periocular involvement particularly of the lower eyelid presents unique reconstructive challenges due to functional and aesthetic considerations. We report a case of a 56-year-old female who presented with a progressively enlarging mass beneath the right lower eyelid over a period of three years. Initially painless, the lesion became symptomatic following self-administration of Ayurvedic topical treatment. Following a comprehensive preoperative workup, the patient underwent wide local excision of the lower eyelid lesion with adequate tumour-free margins, and reconstruction was performed using a Mustarde cheek rotation flap under general anaesthesia. Postoperative recovery was uneventful, and the patient was discharged in stable condition with an appropriate pharmacological regimen. This case highlights the importance of early surgical intervention, the utility of the Mustarde flap in periocular BCC reconstruction, and the role of clinical pharmacists in optimising perioperative medication therapy.

Keywords: Basal Cell Carcinoma, Lower Eyelid, Mustarde Flap, Wide Local Excision, Periocular Reconstruction, Oncosurgery, Clinical Pharmacy

I. INTRODUCTION

Basal Cell Carcinoma (BCC) is the most prevalent form of skin cancer worldwide, arising from the basal layer of the epidermis and the outer root sheath of hair follicles.(1) It is the most common human malignancy, and its global incidence continues to rise steadily, driven by

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increasing ultraviolet (UV) radiation exposure, ageing populations, and immunosuppression.(2) Despite its characteristically low metastatic potential, BCC is locally invasive and can cause significant tissue destruction if neglected — particularly in anatomically critical areas such as the periocular region.(3)

The eyelid region accounts for approximately 5–10% of all cutaneous BCCs, with the lower eyelid being the most commonly affected site. Periocular BCC presents unique diagnostic and surgical challenges, as the proximity of the tumour to the globe, lacrimal apparatus, canthal tendons, and orbital septum demands both oncological rigour and functional preservation.(4) Basal cell carcinoma is reported to constitute approximately 90% of all eyelid cancers in Caucasians, and its delayed presentation — as in this case — can result in significantly larger defects following excision, necessitating complex reconstruction.(5) Epidemiological analyses have confirmed a consistent pattern of increasing BCC burden among older female patients with fair skin types, with the lower eyelid and facial region most commonly involved.(6)

Surgical excision with clear histological margins remains the gold standard treatment for BCC.(7) Mohs Micrographic Surgery (MMS) offers superior cure rates for high-risk, recurrent, or morphoeaform subtypes; however, wide local excision with adequate margins remains widely practised and effective, particularly in resource-limited or non-specialist settings.(8) Among reconstructive options for lower eyelid defects following tumour excision, the Mustarde cheek rotation flap has demonstrated enduring utility. A 2023 case report from the All India Institute of Medical Sciences (AIIMS) confirmed the modified Mustarde flap as a simple and reliable reconstructive option for full-thickness lower eyelid defects following oncological resection in carefully selected patients.(9) A 2024 case series similarly demonstrated effective single-stage reconstruction of lower eyelid defects using the modified Mustarde flap with 3–5 mm excision margins.(10) Most recently, a 2025 case report described successful reconstruction of right lower eyelid BCC using combined tarsoconjunctival and Mustarde flaps, with excellent functional and cosmetic outcomes.(11)

Self-medication with traditional or complementary preparations — including Ayurvedic formulations — is widely practised in India for skin complaints, and may delay medical consultation, alter tumour surface characteristics, and complicate clinical assessment.(12) While Ayurvedic herbs have been reviewed for their adjunctive role in oncology care, their unsupervised topical application to undiagnosed skin malignancies remains a concern in the community setting.(13)

From a clinical pharmacy perspective, perioperative medication management in oncosurgical patients is a complex and risk-laden domain. A 2024 systematic review and meta-analysis confirmed that pharmacist-delivered services in the perioperative setting significantly reduce clinically important adverse outcomes, including medication errors and prolonged length of stay.(14) A further systematic review published in the American Journal of Health-System Pharmacy (2025) demonstrated that pharmacists improve therapy optimisation and clinical outcomes in patients undergoing surgery, particularly through medication reconciliation, antimicrobial stewardship, and PONV management.(15) The role of clinical pharmacists has also been specifically validated in oncology preadmission and inpatient settings, where their interventions meaningfully reduce drug-related problems and improve multidisciplinary care coordination.(16)

This case report describes the clinical presentation, preoperative investigations, surgical management using the Mustarde cheek rotation flap, and perioperative pharmacological care of a 56-year-old female patient with right infraorbital/lower eyelid BCC managed at a tertiary oncosurgery centre in Gujarat, India.(17,18,19)

II. CASE PRESENTATION

2.1 Patient Profile

Age/Gender: 56 Years / Female Date of Admission: 07-03-2026 Date of Discharge: 13-03-2026 Department: Oncosurgery, Shrimad Rajchandra Hospital and Research Centre, Valsad, Gujarat Consultant: Dr. Soham Patel Diagnosis: Right Infraorbital / Lower Eyelid Basal Cell Carcinoma (BCC) Procedure: Wide Excision of Lower Eyelid Lesion + Mustarde Cheek Rotation Flap Surgeons: Dr. Mridul / Dr. Soham Assistants: Parimal / Pooja Anaesthesiologist: Dr. Mitul Kedariya Type of Anaesthesia: General Anaesthesia (G/A) Date of Surgery: 09-03-2026

2.2 History and Clinical Presentation

A 56-year-old female patient presented to the oncosurgery outpatient department with a chief complaint of a mass beneath the right lower eyelid

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for approximately three years. The patient reported that the lesion initially appeared as a small mole and then progressively increased in size over the ensuing years. The mass was painless in nature during its early course; however, pain developed after the patient applied an Ayurvedic topical preparation directly to the lesion as a self-treatment measure. There was no history of significant comorbidities or prior major surgical procedures.

On general examination, the patient was conscious and oriented, with a temperature of 98°F, pulse rate of 74 beats per minute, blood pressure of 100/60 mmHg, oxygen saturation of 98% on room air, and respiratory rate of 22 breaths per minute. Respiratory and cardiovascular systems were unremarkable. The abdomen was soft and non-tender. Local examination revealed a lesion in the right infraorbital/lower eyelid region consistent with the clinical diagnosis of Basal Cell Carcinoma.

2.3 Vital Signs: Admission vs. Discharge

Temperature: 98°F (admission) → 97°F (discharge) Pulse Rate: 74 bpm (admission) → 86 bpm (discharge) Blood Pressure: 100/60 mmHg (admission) → 130/70 mmHg (discharge) SpO2 (Room Air): 98% (admission) → 97% (discharge) Respiratory Rate: 22/min (admission) → 20/min (discharge) CNS: Conscious & Oriented (both) Abdomen: Soft, Non-tender (both) Breath Sounds (RS): AEBL+ (both) CVS: S1S2+ (both)

2.4 Investigations

A comprehensive preoperative workup was conducted to establish systemic fitness for general anaesthesia and elective oncosurgery. The following investigations were performed:

- Complete Blood Count (CBC) – 07-03-2026 and 10-03-2026
- Activated Partial Thromboplastin Time (APTT) – Plasma: 07-03-2026
- Prothrombin Time (PT) – Plasma: 07-03-2026
- Hepatitis B Surface Antigen (HBsAg Rapid): 07-03-2026
- Hepatitis C Virus Antibody (HCV Rapid): 07-03-2026
- HIV Antibodies (Rapid): 07-03-2026
- Blood Glucose (Random): 07-03-2026
- Renal Function Test (RFT): 07-03-2026
- Liver Function Test (LFT): 07-03-2026
- Blood Group and Rh Typing: 07-03-2026
- X-Ray Chest PA View: 07-03-2026
- Biopsy – Medium (×3 specimens): 09-03-2026, confirming diagnosis of BCC

All preoperative parameters were within acceptable clinical limits for the planned surgical procedure. Histopathological examination of the biopsy specimens confirmed the diagnosis of Basal Cell Carcinoma of the right lower eyelid.

III. SURGICAL MANAGEMENT

The patient underwent wide local excision of the right lower eyelid lesion on 09-03-2026, performed under general anaesthesia. The procedure was executed with adequate surgical margins maintained all around the tumour to ensure complete oncological clearance. Following wide excision, the surgical field was thoroughly washed and haemostasis was confirmed.

Reconstruction of the resulting lower eyelid defect was accomplished using a local Mustarde cheek rotation flap. The flap was raised from the ipsilateral cheek, advanced, and inset into the defect, providing adequate tissue coverage and restoration of lower eyelid contour. The Mustarde flap technique utilises the redundancy of ipsilateral cheek skin, relying on robust perforator-based vascularity, and is particularly suited for larger periocular defects where primary closure or smaller local flaps would produce unacceptable functional or cosmetic compromise.

The surgical team comprised Dr. Mridul and Dr. Soham as operating surgeons, assisted by Parimal and Pooja, under the anaesthetic management of Dr. Mitul Kedariya. The intraoperative course was uneventful, with no significant complications noted.

IV. PHARMACOLOGICAL MANAGEMENT

4.1 Inpatient Medications

Here is the inpatient medication list in tabular form:

S.No	Drug	Dose	Route	Frequency	Indication
1	Inj. Cefosulbactum	1.5 g	IV	1-0-1	Perioperative antibiotic prophylaxis
2	Inj. Pantoprazole	40 mg	IV	1-0-1	Gastroprotection

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(PPI)					
Antiemetic / PONV prophylaxis	1-0-1	IV	4 mg	Inj. Ondansetron	**3**
Postoperative analgesia	1-1-1	IV	100 mg	Inj. Tramadol + NS 100 mL	**4**
Anti-inflammatory enzyme therapy	1-1-1	PO	1 Tab	Tab. Chymoral Forte	**5**
Ocular lubrication	1-1-1	Topical	1 Drop	Carboxymethyl Cellulose Eye Drops	**6**
Topical antibiotic prophylaxis	1-0-1	Topical	2 Drops	Ciplox Eye Drops	**7**
Local anti-inflammatory	1-1-1-1	Topical	—	Prednisolone Eye Drops	**8**

4.2 Discharge Medications (5-Day Course)

Here is the discharge medication list in tabular form:

Indication	Frequency	Route	Dose	Drug	S.No
Oral antibiotic cover	1-0-1	PO	625 mg	Tab. Augmentin	**1**
Analgesia & antipyresis	1-0-1	PO	1 Tab	Tab. Akilos P	**2**
Gastroprotection	1-0-1	PO	40/10 mg	Cap. Pan D	**3**
Ocular lubrication	1-1-1	Topical	1 Drop	Carboxymethyl Cellulose Eye Drops	**4**
Topical antibiotic	1-0-1	Topical	2 Drops	Ciplox Eye Drops	**5**
Anti-inflammatory tapering	1-0-1 (Day 1), then 1-0-0 (Days 2–4), then stop	Topical	—	Prednisolone Eye Drops	**6**

4.3 Clinical Pharmacy Perspective

The perioperative drug regimen was rational, evidence-based, and consistent with current oncosurgical pharmacy practice. Cefosulbactum a fixed-dose combination of Cefoperazone (a third-generation cephalosporin) and Sulbactam (a beta-lactamase inhibitor) was selected for its broad-spectrum coverage encompassing gram-positive, gram-negative, and anaerobic organisms, making it appropriate for perioperative prophylaxis in a surgical wound involving the periocular region. Pantoprazole was employed as a proton pump inhibitor to provide gastric mucosal protection, particularly relevant given concomitant NSAID and opioid analgesic use. Ondansetron, a selective 5-HT3 receptor antagonist, was prescribed for prophylaxis and management of post-operative nausea and vomiting (PONV), a common adverse sequela of general anaesthesia.

Tramadol a centrally acting opioid agonist and norepinephrine-serotonin reuptake inhibitor was used for postoperative pain management. Administration via slow intravenous infusion in normal saline ensures controlled drug delivery and reduces the risk of adverse effects associated with rapid bolus injection, such as nausea and cardiovascular instability. Chymoral Forte, containing the proteolytic enzymes chymotrypsin and trypsin, was prescribed as an adjunctive anti-inflammatory agent to reduce postoperative oedema, facilitate wound healing, and improve tissue recovery.

Topical eye care was structured with Carboxymethyl Cellulose drops for ocular surface lubrication, Ciprofloxacin (Ciplox) drops for antibacterial prophylaxis of the surgical site, and Prednisolone drops for local anti-inflammatory effect. The gradual tapering of Prednisolone eye drops at discharge reflects appropriate corticosteroid weaning, avoiding rebound inflammation. Oral Augmentin continued antibacterial cover during outpatient recovery. Cap. Pan D addressed both gastric protection and potential dysmotility. This

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structured pharmacological approach reflects best practices in perioperative clinical pharmacy.

V. DISCUSSION

BCC of the eyelid, though locally confined in most cases, presents substantial therapeutic challenges owing to the complex anatomy of the periocular region. The lower eyelid is the most affected site, and delayed presentation — as seen in this patient with a three-year history — can result in larger tumour dimensions necessitating more extensive excision and complex reconstruction. Prior literature reports that approximately 90% of eyelid BCCs occur on the lower eyelid and medial canthal region, both areas where functional and cosmetic demands are particularly high.

The Mustarde cheek rotation flap, originally described by Mustarde in 1966, is a rotational flap harvested from the ipsilateral cheek using its inherent skin laxity. It provides excellent colour and texture match to the lower eyelid skin, acceptable donor-site morbidity, and reliable vascularity from perforators of the facial artery. The technique is particularly indicated for defects exceeding 50–60% of the horizontal lower eyelid length, where primary closure or smaller local flap options would introduce unacceptable ectropion or corneal exposure risk. In the present case, the Mustarde flap was employed following oncologically adequate wide excision, balancing surgical clearance with functional and cosmetic preservation.

The patient's use of Ayurvedic topical treatment prior to seeking medical consultation is a clinically noteworthy feature. Self-medication with traditional preparations may alter the surface characteristics of cutaneous malignancies, introduce secondary inflammation or superinfection, and delay diagnosis. Healthcare providers — and pharmacists in particular, as accessible points of first contact in the community — should counsel patients about the importance of timely medical evaluation for any progressive or changing skin lesion.

From the perspective of pharmaceutical care, the perioperative regimen demonstrated evidence-based prescribing with attention to antimicrobial stewardship, pain management, PONV prevention, and ocular surface protection. Clinical pharmacists in such cases can meaningfully contribute through medication reconciliation, patient counselling on discharge drug use, monitoring for drug interactions, and facilitating adherence to follow-up schedules.

VI. CONCLUSION

This case report describes the successful management of right lower eyelid BCC in a 56-year-old female through wide local excision and Mustarde cheek rotation flap reconstruction. The case underscores several important clinical lessons: the need for early medical consultation for progressive skin lesions; the effectiveness of margin-controlled excision combined with Mustarde flap reconstruction in periocular BCC; the potential complications of unsupervised traditional self-treatment on skin malignancies; and the integral role of clinical pharmacy in optimising perioperative drug therapy. Timely, multidisciplinary management — integrating oncosurgery, anaesthesiology, and clinical pharmacy — is essential to achieving favourable outcomes in periocular BCC. Further prospective studies evaluating long-term recurrence rates and quality-of-life outcomes following Mustarde flap reconstruction are warranted.

Patient Consent

Written informed consent was obtained from the patient for the publication of this case report and the use of anonymised clinical data.

Conflict of Interest

The author declares no conflict of interest in relation to the research, authorship, and/or publication of this article.

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