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Case Report

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Glabellar flap reconstruction following wide local excision of nasal basal cell carcinoma

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17 **Abstract**

18 Background: Nasal basal cell carcinoma (BCC) may require surgical excision followed by
19 reconstruction that preserves both oncological safety and the aesthetic and functional subunits of
20 the nose. The glabellar flap is a useful single-stage option for selected defects of the upper nasal
21 dorsum.

22 Case presentation: A 70-year-old male farmer presented with a chronic, non-healing, pigmented
23 ulcer over the nasal dorsum that had progressively enlarged over approximately 1 year.

24 Examination revealed a 1.5–2 cm blackish, crusted, indurated ulcer with rolled edges. Punch
25 biopsy confirmed BCC. Wide local excision was performed with a 5 mm clinical margin,
26 followed by single-stage reconstruction of the dorsal nasal defect using a superiorly based
27 glabellar V–Y advancement flap. Histopathological examination of the excision specimen
28 confirmed BCC with negative margins.

29 Management and outcome: The flap remained viable without necrosis, infection, or wound
30 dehiscence. Sutures were removed on postoperative day 14. Follow-up at 2 weeks, 1 month, 3
31 months, and 6 months demonstrated satisfactory wound healing, acceptable nasal contour and
32 scar maturation, and no clinical evidence of local recurrence.

33 Conclusion: For appropriately selected small-to-moderate upper dorsal nasal defects, a glabellar
34 V–Y advancement flap can provide reliable single-stage coverage with good tissue match and
35 satisfactory cosmetic and functional outcomes. Careful oncological excision and flap design are
36 essential.

Keywords

Basal cell carcinoma; nasal reconstruction; glabellar flap; V–Y advancement flap; nasal dorsum; case report

1 Introduction

Basal cell carcinoma is the most common cutaneous malignancy and occurs frequently on chronically sun-exposed facial skin. Although metastatic spread is uncommon, untreated lesions may cause progressive local tissue destruction. Surgical treatment remains the principal management for resectable BCC, with the choice of excision technique and margin assessment determined by lesion- and patient-specific risk factors [1,2].

Reconstruction of a nasal defect following tumour excision requires careful consideration of the defect location and size, nasal aesthetic subunits, tissue thickness and colour, contour, and preservation of nasal function. Local flaps often provide a better tissue match than skin grafts because they recruit adjacent skin with similar characteristics. For defects involving the upper or dorsal nose, the glabellar flap is an established reconstructive option and may be designed as a V–Y advancement flap or as a transposition or rotation flap [3–5].

We present a case of single-stage reconstruction of a dorsal nasal BCC defect following wide local excision using a glabellar V–Y advancement flap. The report is presented in accordance with the CARE case-report guidelines [6,7].

55 **2 Case description**

56 **2.1 Patient information**

57 A 70-year-old male farmer presented with a chronic, non-healing ulcer over the dorsum of the
58 nose of approximately 1 year's duration. According to the clinical record, the lesion was initially
59 smaller than 1 cm and gradually increased in size. No other associated symptoms were reported.
60 The patient had no significant medical comorbidities and no history of previous radiotherapy,
61 chemotherapy, or long-term medication use. He had not previously sought medical treatment for
62 the lesion.

63 **2.2 Clinical findings**

64 Examination revealed a blackish, crusted, pigmented ulcer measuring approximately 1.5–2 cm
65 over the nasal dorsum, slightly raised and located off-centre to the right. The lesion had rolled
66 edges and was firm and indurated. It was non-tender and did not bleed on touch. The lesion was
67 cosmetically noticeable to the patient.

68 **2.3 Diagnostic assessment**

69 Ultrasonography of the lesion and neck was performed as part of the preoperative assessment to
70 exclude a vascular lesion and assess for clinically significant cervical lymphadenopathy. A
71 punch biopsy was subsequently obtained. Histopathological examination confirmed basal cell
72 carcinoma. The available clinical record did not document a separate formal differential
73 diagnosis or additional laboratory testing.

74 Following histopathological confirmation, surgical excision was planned. Wide local excision
75 was performed with a clinically planned 5 mm safety margin, resulting in a soft-tissue defect of

the nasal dorsum. Final histopathological examination of the excision specimen confirmed BCC with negative margins.

2.4 Therapeutic intervention

The lesion was excised under appropriate anaesthesia. Preoperative marking was performed with an intended 4–5 mm margin, and wide local excision included the subcutaneous tissue. A superiorly based glabellar V–Y advancement flap was designed in the glabellar region. The flap was elevated in the subcutaneous plane with preservation of adequate vascularity, mobilised and advanced inferiorly into the nasal defect without undue tension, and secured with fine interrupted sutures. The glabellar donor site was closed primarily. Haemostasis was achieved, and a sterile dressing was applied.

The procedure was completed as a single-stage reconstruction. No flap congestion, necrosis, or other major intraoperative or early postoperative complication was documented.

2.5 Timeline

Time point	Clinical event
~1 year before presentation	A non-healing ulcer over the nasal dorsum developed and progressively enlarged from less than 1 cm.
Presentation	A 70-year-old male was assessed; a 1.5–2 cm pigmented, crusted, indurated ulcer with rolled edges was documented.
Preoperative assessment	Ultrasonography of the lesion and neck was performed; a punch biopsy was obtained.
Diagnostic confirmation	Histopathological examination confirmed basal cell carcinoma.
Surgery	Wide local excision with a planned 5 mm clinical margin followed by glabellar V–Y advancement flap reconstruction.
Postoperative day 7	First follow-up: the flap was viable, with mild local

	erythema and no necrosis or infection.
Postoperative day 14	Sutures were removed; no flap necrosis or infection was documented.
~3 months	Follow-up demonstrated satisfactory healing, contour, and scar maturation, with no clinical evidence of recurrence.
6 months	Final documented follow-up: satisfactory cosmetic result and no clinical evidence of local recurrence.

89 **2.6 Follow-up and outcomes**

90 The postoperative course was uneventful. Flap viability was maintained, with no evidence of flap
91 necrosis or infection. At the first postoperative review on day 7, the suture line was intact, with
92 mild local erythema but no significant discharge, oedema, or flap necrosis. Sutures were
93 removed on postoperative day 14. Subsequent reviews at approximately 1 month, 3 months, and
94 6 months demonstrated good wound healing, satisfactory nasal contour, and acceptable scar
95 maturation. No clinical evidence of local recurrence was documented during the 6-month follow-
96 up period.

97 No formal patient-reported outcome instrument or quantitative cosmetic score was used.

98 Treatment adherence was not documented separately from routine postoperative follow-up. No
99 adverse or unanticipated events were reported.

100 **3 Discussion**

101 The main clinical consideration in this case was reconstruction of a cosmetically conspicuous
102 dorsal nasal defect following oncologically appropriate excision of BCC. Surgical excision is the
103 cornerstone of treatment for localized BCC, while reconstruction should be planned according to
104 the defect size, location, depth, aesthetic subunit, and availability of adjacent tissue [1,2].

The glabellar flap is particularly useful for defects of the upper third or cranial dorsum of the nose. It recruits adjacent skin with favourable colour and texture characteristics and can provide single-stage coverage. Reviews of nasal reconstruction describe the glabellar flap as a useful option for small-to-moderate defects of the cranial dorsum, including V–Y advancement designs [3–5]. It may be particularly advantageous in older patients because of increased skin laxity in the glabellar region.

In the present case, the defect following excision of a 1.5–2 cm lesion was successfully covered using a V–Y advancement flap. The flap remained viable and provided satisfactory contour and scar maturation during 6 months of follow-up. This outcome is consistent with the established role of local tissue rearrangement for selected proximal dorsal nasal defects [4,5].

Alternative reconstructive options include primary closure for selected small defects, bilobed or dorsal nasal flaps for appropriate dorsal or sidewall defects, skin grafting, and paramedian forehead flaps for larger or more complex defects. The choice should be individualized according to the defect and aesthetic subunit rather than based on size alone [4,5]. A paramedian forehead flap is particularly useful for larger or more complex defects but generally requires a more extensive reconstruction. In contrast, a glabellar V–Y advancement flap can provide single-stage reconstruction in appropriately selected upper dorsal defects.

A strength of this case is the combination of histologically clear excision, immediate local flap reconstruction, and serial clinical follow-up for 6 months. Limitations include the single-patient design, the absence of a formal patient-reported outcome measure, the lack of longer-term oncological surveillance beyond 6 months, and the absence of detailed quantitative defect dimensions and histopathological subtype in the available clinical record. Therefore, the favourable outcome should not be generalized to all nasal BCC defects.

4 Patient perspective

The lesion was cosmetically noticeable to the patient, and the postoperative result was considered satisfactory. A formal patient-reported outcome measure was not used.

5 Conclusion

For selected small-to-moderate upper dorsal nasal defects following complete excision of basal cell carcinoma, a glabellar V–Y advancement flap can provide reliable single-stage reconstruction with satisfactory tissue match, preservation of nasal contour, and low donor-site morbidity. Careful preoperative planning, oncological margin control, preservation of flap vascularity, and structured follow-up are essential. The principal lesson from this case is that an appropriately designed glabellar flap can be an effective reconstructive option when adjacent tissue is suitable.

CARE guideline statement

This case report is presented in accordance with the CARE case-report guidelines [6,7]. A completed CARE checklist is provided as Supplementary File 1.

Declarations

Ethics approval and consent to participate

The case report was approved by the Institutional Ethics Committee, Government Medical College Srinagar and Associated Hospitals, Srinagar, Jammu and Kashmir, India. Written informed consent was obtained from the patient for participation in the case report and for the use of clinical information and images.

148 **Consent for publication**

149 Written informed consent was obtained from the patient for publication of the clinical details and
150 accompanying clinical images included in this report.

151 **Competing interests**

152 The authors declare that they have no competing interests.

153 **Funding**

154 No funding was received for this work.

155 **Data availability**

156 All information relevant to this case report is contained within the manuscript and its
157 accompanying clinical images. Additional clinical information may be obtained from the
158 corresponding author on reasonable request, subject to patient confidentiality.

159 **Author contributions**

160 All authors contributed to the clinical management and/or preparation of the manuscript, critically
161 reviewed the manuscript, approved the final version, and agreed to be accountable for all aspects of the
162 work.

163 **Acknowledgements**

164 Not applicable.

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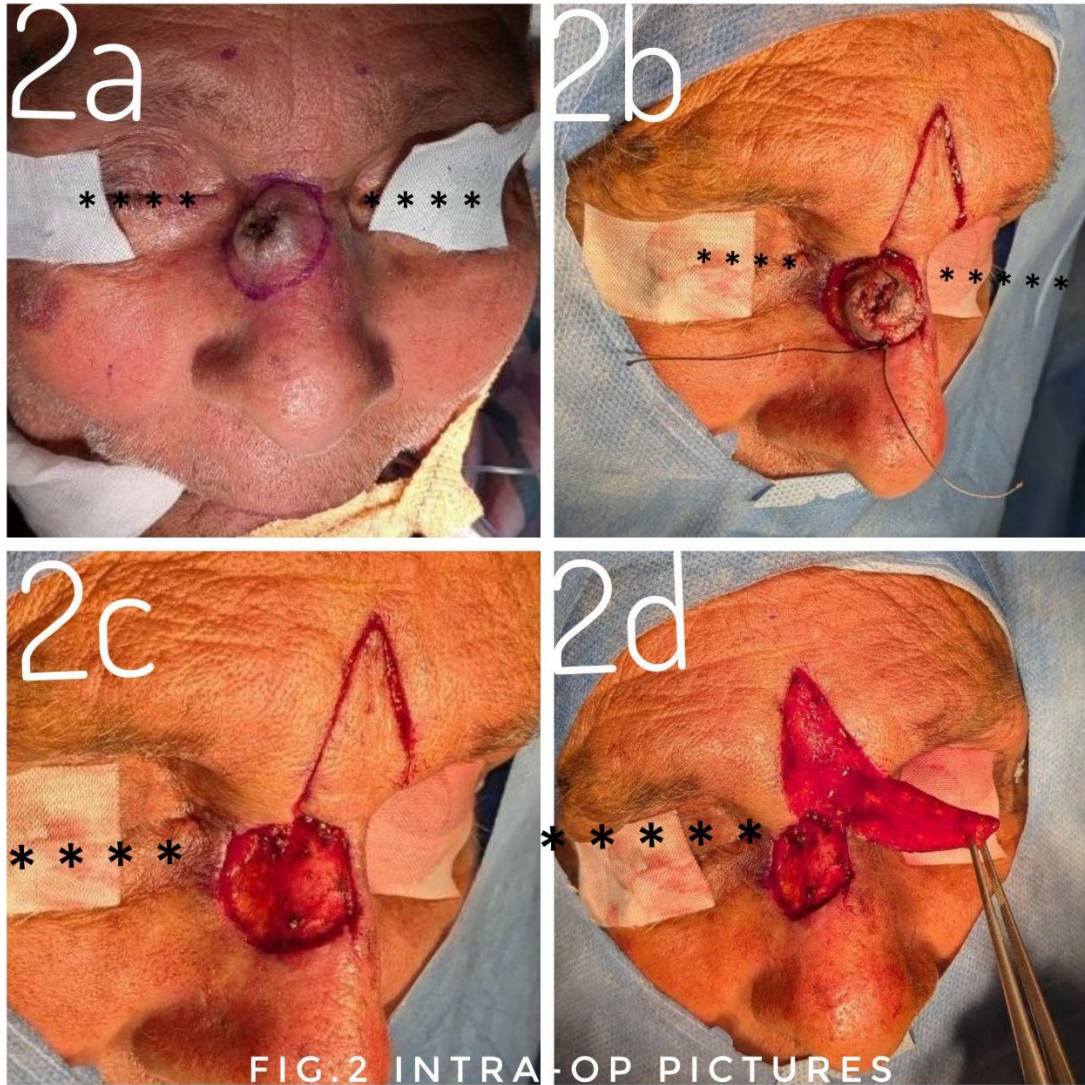
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185

186 *Figure 1. Preoperative clinical photograph showing the pigmented, crusted ulcer over the nasal*

187 *dorsum.*

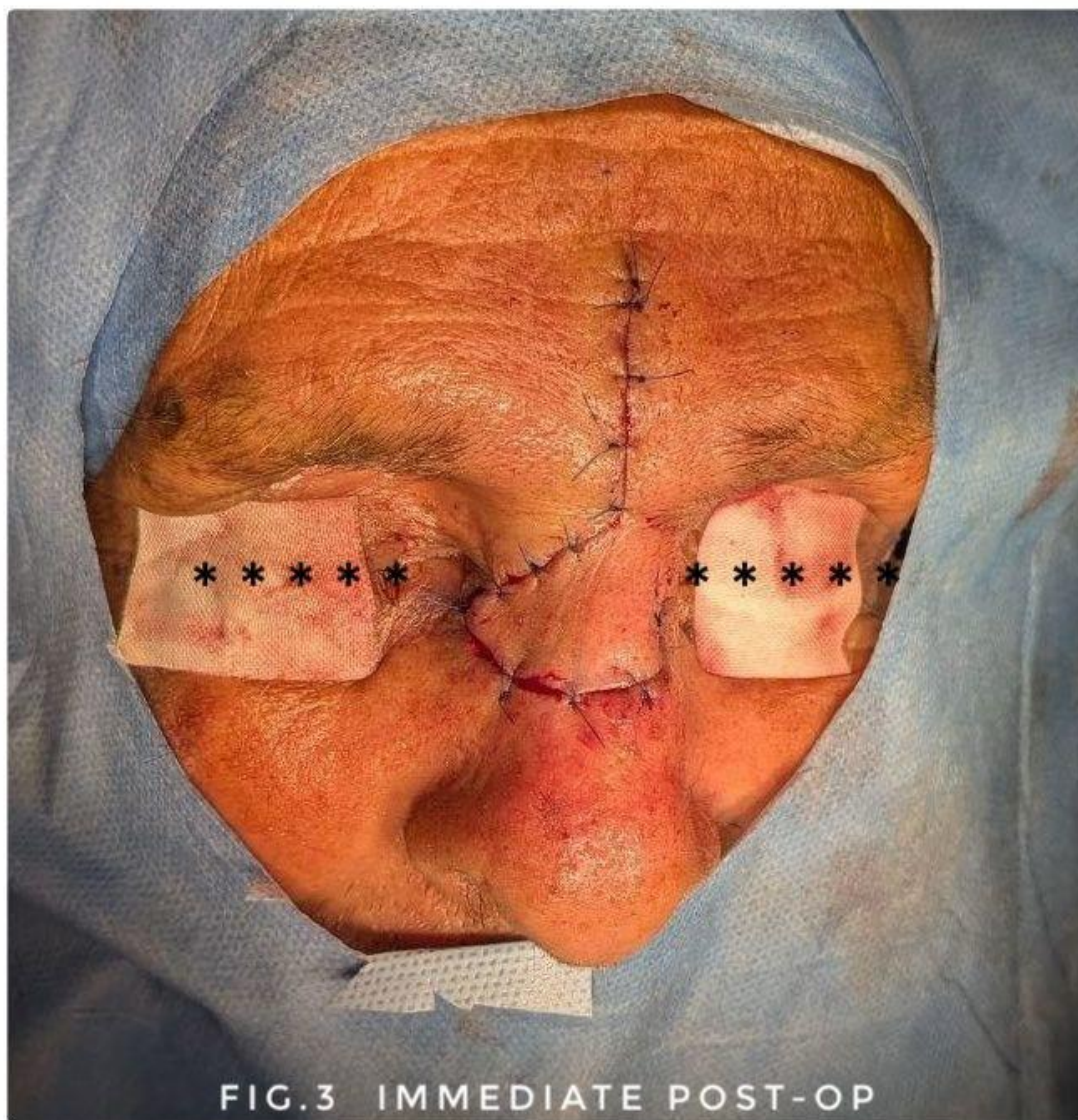


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189 Figure 2. Intraoperative sequence: (a) preoperative marking; (b) wide local excision; (c) glabellar

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flap creation; and (d) flap advancement and inset.



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Figure 3. Immediate postoperative appearance following glabellar flap reconstruction.



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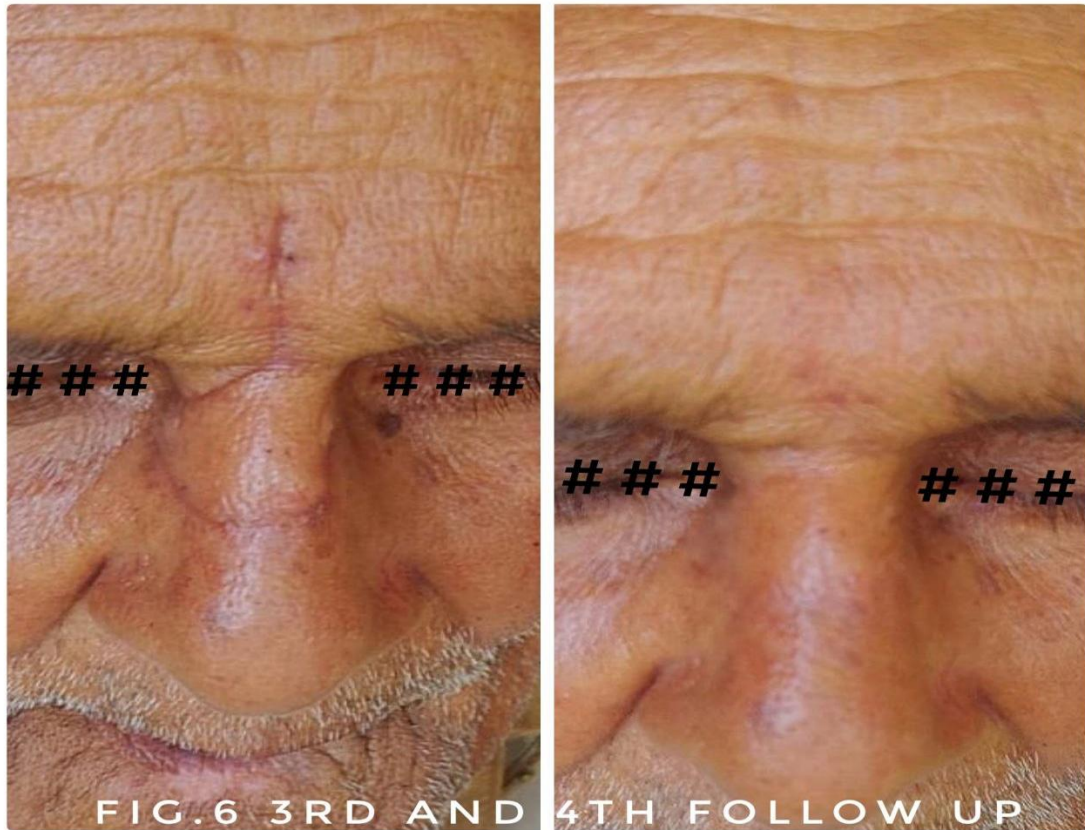
Figure 4. First postoperative follow-up demonstrating flap viability and wound healing.



195

196

Figure 5. Follow-up at suture removal demonstrating satisfactory wound healing.



197

198 Figure 6. Third and fourth follow-up appearances demonstrating scar maturation and satisfactory
199 nasal contour.

200

Supplementary Files

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