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ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии
საქართველოს სამედიცინო სიახლენი

GEORGIAN MEDICAL NEWS

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GMN: Georgian Medical News is peer-reviewed, published monthly journal committed to promoting the science and art of medicine and the betterment of public health, published by the GMN Editorial Board since 1994. GMN carries original scientific articles on medicine, biology and pharmacy, which are of experimental, theoretical and practical character; publishes original research, reviews, commentaries, editorials, essays, medical news, and correspondence in English and Russian.

GMN is indexed in MEDLINE, SCOPUS, PubMed and VINITI Russian Academy of Sciences. The full text content is available through EBSCO databases.

GMN: Медицинские новости Грузии - ежемесячный рецензируемый научный журнал, издаётся Редакционной коллегией с 1994 года на русском и английском языках в целях поддержки медицинской науки и улучшения здравоохранения. В журнале публикуются оригинальные научные статьи в области медицины, биологии и фармации, статьи обзорного характера, научные сообщения, новости медицины и здравоохранения. Журнал индексируется в MEDLINE, отражён в базе данных SCOPUS, PubMed и ВИНТИ РАН. Полнотекстовые статьи журнала доступны через БД EBSCO.

GMN: Georgian Medical News – საქართველოს სამედიცინო სიახლენი – არის ყოველთვიური სამეცნიერო სამედიცინო რეცენზირებადი ჟურნალი, გამოიცემა 1994 წლიდან, წარმოადგენს სარედაქციო კოლეგიისა და აშშ-ის მეცნიერების, განათლების, ინდუსტრიის, ხელოვნებისა და ბუნებისმეტყველების საერთაშორისო აკადემიის ერთობლივ გამოცემას. GMN-ში რუსულ და ინგლისურ ენებზე ქვეყნდება ექსპერიმენტული, თეორიული და პრაქტიკული ხასიათის ორიგინალური სამეცნიერო სტატიები მედიცინის, ბიოლოგიისა და ფარმაციის სფეროში, მიმოხილვითი ხასიათის სტატიები.

ჟურნალი ინდექსირებულია MEDLINE-ის საერთაშორისო სისტემაში, ასახულია SCOPUS-ის, PubMed-ის და ВИНТИ РАН-ის მონაცემთა ბაზებში. სტატიების სრული ტექსტი ხელმისაწვდომია EBSCO-ს მონაცემთა ბაზებშიდან.

WEBSITE

www.geomednews.com

К СВЕДЕНИЮ АВТОРОВ!

При направлении статьи в редакцию необходимо соблюдать следующие правила:

1. Статья должна быть представлена в двух экземплярах, на русском или английском языках, напечатанная через **полтора интервала на одной стороне стандартного листа с шириной левого поля в три сантиметра**. Используемый компьютерный шрифт для текста на русском и английском языках - **Times New Roman (Кириллица)**, для текста на грузинском языке следует использовать **AcadNusx**. Размер шрифта - **12**. К рукописи, напечатанной на компьютере, должен быть приложен CD со статьей.

2. Размер статьи должен быть не менее десяти и не более двадцати страниц машинописи, включая указатель литературы и резюме на английском, русском и грузинском языках.

3. В статье должны быть освещены актуальность данного материала, методы и результаты исследования и их обсуждение.

При представлении в печать научных экспериментальных работ авторы должны указывать вид и количество экспериментальных животных, применявшиеся методы обезболивания и усыпления (в ходе острых опытов).

4. К статье должны быть приложены краткое (на полстраницы) резюме на английском, русском и грузинском языках (включающее следующие разделы: цель исследования, материал и методы, результаты и заключение) и список ключевых слов (key words).

5. Таблицы необходимо представлять в печатной форме. Фотокопии не принимаются. **Все цифровые, итоговые и процентные данные в таблицах должны соответствовать таковым в тексте статьи.** Таблицы и графики должны быть озаглавлены.

6. Фотографии должны быть контрастными, фотокопии с рентгенограмм - в позитивном изображении. Рисунки, чертежи и диаграммы следует озаглавить, пронумеровать и вставить в соответствующее место текста **в tiff формате**.

В подписях к микрофотографиям следует указывать степень увеличения через окуляр или объектив и метод окраски или импрегнации срезов.

7. Фамилии отечественных авторов приводятся в оригинальной транскрипции.

8. При оформлении и направлении статей в журнал МНГ просим авторов соблюдать правила, изложенные в «Единых требованиях к рукописям, представляемым в биомедицинские журналы», принятых Международным комитетом редакторов медицинских журналов - <http://www.spinesurgery.ru/files/publish.pdf> и http://www.nlm.nih.gov/bsd/uniform_requirements.html. В конце каждой оригинальной статьи приводится библиографический список. В список литературы включаются все материалы, на которые имеются ссылки в тексте. Список составляется в алфавитном порядке и нумеруется. Литературный источник приводится на языке оригинала. В списке литературы сначала приводятся работы, написанные знаками грузинского алфавита, затем кириллицей и латиницей. Ссылки на цитируемые работы в тексте статьи даются в квадратных скобках в виде номера, соответствующего номеру данной работы в списке литературы. Большинство цитированных источников должны быть за последние 5-7 лет.

9. Для получения права на публикацию статья должна иметь от руководителя работы или учреждения визу и сопроводительное отношение, написанные или напечатанные на бланке и заверенные подписью и печатью.

10. В конце статьи должны быть подписи всех авторов, полностью приведены их фамилии, имена и отчества, указаны служебный и домашний номера телефонов и адреса или иные координаты. Количество авторов (соавторов) не должно превышать пяти человек.

11. Редакция оставляет за собой право сокращать и исправлять статьи. Корректуре авторам не высылаются, вся работа и сверка проводится по авторскому оригиналу.

12. Недопустимо направление в редакцию работ, представленных к печати в иных издательствах или опубликованных в других изданиях.

При нарушении указанных правил статьи не рассматриваются.

REQUIREMENTS

Please note, materials submitted to the Editorial Office Staff are supposed to meet the following requirements:

1. Articles must be provided with a double copy, in English or Russian languages and typed or computer-printed on a single side of standard typing paper, with the left margin of 3 centimeters width, and 1.5 spacing between the lines, typeface - **Times New Roman (Cyrillic)**, print size - 12 (referring to Georgian and Russian materials). With computer-printed texts please enclose a CD carrying the same file titled with Latin symbols.

2. Size of the article, including index and resume in English, Russian and Georgian languages must be at least 10 pages and not exceed the limit of 20 pages of typed or computer-printed text.

3. Submitted material must include a coverage of a topical subject, research methods, results, and review.

Authors of the scientific-research works must indicate the number of experimental biological species drawn in, list the employed methods of anesthetization and soporific means used during acute tests.

4. Articles must have a short (half page) abstract in English, Russian and Georgian (including the following sections: aim of study, material and methods, results and conclusions) and a list of key words.

5. Tables must be presented in an original typed or computer-printed form, instead of a photocopied version. **Numbers, totals, percentile data on the tables must coincide with those in the texts of the articles.** Tables and graphs must be headed.

6. Photographs are required to be contrasted and must be submitted with doubles. Please number each photograph with a pencil on its back, indicate author's name, title of the article (short version), and mark out its top and bottom parts. Drawings must be accurate, drafts and diagrams drawn in Indian ink (or black ink). Photocopies of the X-ray photographs must be presented in a positive image in **tiff format**.

Accurately numbered subtitles for each illustration must be listed on a separate sheet of paper. In the subtitles for the microphotographs please indicate the ocular and objective lens magnification power, method of coloring or impregnation of the microscopic sections (preparations).

7. Please indicate last names, first and middle initials of the native authors, present names and initials of the foreign authors in the transcription of the original language, enclose in parenthesis corresponding number under which the author is listed in the reference materials.

8. Please follow guidance offered to authors by The International Committee of Medical Journal Editors guidance in its Uniform Requirements for Manuscripts Submitted to Biomedical Journals publication available online at: http://www.nlm.nih.gov/bsd/uniform_requirements.html
http://www.icmje.org/urm_full.pdf

In GMN style for each work cited in the text, a bibliographic reference is given, and this is located at the end of the article under the title "References". All references cited in the text must be listed. The list of references should be arranged alphabetically and then numbered. References are numbered in the text [numbers in square brackets] and in the reference list and numbers are repeated throughout the text as needed. The bibliographic description is given in the language of publication (citations in Georgian script are followed by Cyrillic and Latin).

9. To obtain the rights of publication articles must be accompanied by a visa from the project instructor or the establishment, where the work has been performed, and a reference letter, both written or typed on a special signed form, certified by a stamp or a seal.

10. Articles must be signed by all of the authors at the end, and they must be provided with a list of full names, office and home phone numbers and addresses or other non-office locations where the authors could be reached. The number of the authors (co-authors) must not exceed the limit of 5 people.

11. Editorial Staff reserves the rights to cut down in size and correct the articles. Proof-sheets are not sent out to the authors. The entire editorial and collation work is performed according to the author's original text.

12. Sending in the works that have already been assigned to the press by other Editorial Staffs or have been printed by other publishers is not permissible.

**Articles that Fail to Meet the Aforementioned
Requirements are not Assigned to be Reviewed.**

ავტორთა საყურადღებო!

რედაქციაში სტატიის წარმოდგენისას საჭიროა დავიცვათ შემდეგი წესები:

1. სტატია უნდა წარმოადგინოთ 2 ცალად, რუსულ ან ინგლისურ ენებზე, დაბეჭდილი სტანდარტული ფურცლის 1 გვერდზე, 3 სმ სიგანის მარცხენა ველისა და სტრიქონებს შორის 1,5 ინტერვალის დაცვით. გამოყენებული კომპიუტერული შრიფტი რუსულ და ინგლისურენოვან ტექსტებში - **Times New Roman (Кириллица)**, ხოლო ქართულენოვან ტექსტში საჭიროა გამოვიყენოთ **AcadNusx**. შრიფტის ზომა – 12. სტატიას თან უნდა ახლდეს CD სტატიით.

2. სტატიის მოცულობა არ უნდა შეადგენდეს 10 გვერდზე ნაკლებს და 20 გვერდზე მეტს ლიტერატურის სიის და რეზიუმეების (ინგლისურ, რუსულ და ქართულ ენებზე) ჩათვლით.

3. სტატიაში საჭიროა გაშუქდეს: საკითხის აქტუალობა; კვლევის მიზანი; საკვლევი მასალა და გამოყენებული მეთოდები; მიღებული შედეგები და მათი განსჯა. ექსპერიმენტული ხასიათის სტატიების წარმოდგენისას ავტორებმა უნდა მიუთითონ საექსპერიმენტო ცხოველების სახეობა და რაოდენობა; გაუტკივარებისა და დაძინების მეთოდები (მწვავე ცდების პირობებში).

4. სტატიას თან უნდა ახლდეს რეზიუმე ინგლისურ, რუსულ და ქართულ ენებზე არანაკლებ ნახევარი გვერდის მოცულობისა (სათაურის, ავტორების, დაწესებულების მითითებით და უნდა შეიცავდეს შემდეგ განყოფილებებს: მიზანი, მასალა და მეთოდები, შედეგები და დასკვნები; ტექსტუალური ნაწილი არ უნდა იყოს 15 სტრიქონზე ნაკლები) და საკვანძო სიტყვების ჩამონათვალი (key words).

5. ცხრილები საჭიროა წარმოადგინოთ ნაბეჭდი სახით. ყველა ციფრული, შემავსებელი და პროცენტული მონაცემები უნდა შეესაბამებოდეს ტექსტში მოყვანილს.

6. ფოტოსურათები უნდა იყოს კონტრასტული; სურათები, ნახაზები, დიაგრამები - დასათაურებული, დანომრილი და სათანადო ადგილას ჩასმული. რენტგენოგრაფიის ფოტოსურათები წარმოადგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტოსურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შედეგების ან იმპრეგნაციის მეთოდი და აღნიშნოთ სურათის ზედა და ქვედა ნაწილები.

7. სამამულო ავტორების გვარები სტატიაში აღინიშნება ინიციალების თანდართვით, უცხოურისა – უცხოური ტრანსკრიპციით.

8. სტატიას თან უნდა ახლდეს ავტორის მიერ გამოყენებული სამამულო და უცხოური შრომების ბიბლიოგრაფიული სია (ბოლო 5-8 წლის სიღრმით). ანბანური წყობით წარმოდგენილ ბიბლიოგრაფიულ სიაში მიუთითეთ ჯერ სამამულო, შემდეგ უცხოელი ავტორები (გვარი, ინიციალები, სტატიის სათაური, ჟურნალის დასახელება, გამოცემის ადგილი, წელი, ჟურნალის №, პირველი და ბოლო გვერდები). მონოგრაფიის შემთხვევაში მიუთითეთ გამოცემის წელი, ადგილი და გვერდების საერთო რაოდენობა. ტექსტში კვადრატულ ფხიხლებში უნდა მიუთითოთ ავტორის შესაბამისი N ლიტერატურის სიის მიხედვით. მიზანშეწონილია, რომ ციტირებული წყაროების უმეტესი ნაწილი იყოს 5-6 წლის სიღრმის.

9. სტატიას თან უნდა ახლდეს: ა) დაწესებულების ან სამეცნიერო ხელმძღვანელის წარდგინება, დამოწმებული ხელმოწერითა და ბეჭდით; ბ) დარგის სპეციალისტის დამოწმებული რეცენზია, რომელშიც მითითებული იქნება საკითხის აქტუალობა, მასალის საკმაობა, მეთოდის სანდოობა, შედეგების სამეცნიერო-პრაქტიკული მნიშვნელობა.

10. სტატიის ბოლოს საჭიროა ყველა ავტორის ხელმოწერა, რომელთა რაოდენობა არ უნდა აღემატებოდეს 5-ს.

11. რედაქცია იტოვებს უფლებას შეასწოროს სტატია. ტექსტზე მუშაობა და შეჯერება ხდება საავტორო ორიგინალის მიხედვით.

12. დაუშვებელია რედაქციაში ისეთი სტატიის წარდგენა, რომელიც დასაბეჭდად წარდგენილი იყო სხვა რედაქციაში ან გამოქვეყნებული იყო სხვა გამოცემებში.

აღნიშნული წესების დარღვევის შემთხვევაში სტატიები არ განიხილება.

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DERMATOLOGIC SURGERY ROUNDS: THE LIMBERG FLAP AND V-TO-T CLOSURE FOR CUTANEOUS/ MUCOCUTANEOUS DEFECTS FOLLOWING SKIN CANCER EXCISION IN HIGH-RISK FACIAL REGIONS

Tchernev G^{1,2}, Tchernev KG Jr², Kordeva S¹.

¹Department of Dermatology and Venereology, Medical Institute of Ministry of Interior, General Skobelev 79, 1606, Sofia, Bulgaria.

²Onkoderma- Clinic for Dermatology, Venereology and Dermatologic Surgery, General Skobelev 26, 1606 Sofia, Bulgaria.

Abstract.

Dermatologic and reconstructive surgery involves a range of techniques aimed at maximizing tissue preservation while minimizing postoperative functional impairment. Although classical reconstructive methods remain safe and effective, ongoing innovations enable refinement of established approaches and may contribute to improved tissue preservation as well as enhanced functional and aesthetic outcomes.

We present two independent cases involving small-to-medium sized primary defects following surgical excision of a zygomatic cutaneous lesion and a lower lip mucosal/cutaneous lesion. Given the anatomical differences between these regions, individualized reconstructive strategies were employed: in the first case, a classical Limberg flap was used to restore the cheek contour without distortion, achieving favorable functional and aesthetic outcomes; in the second case, a V-to-T closure was performed, resulting in a refined postoperative outcome compared with alternative and classical flap designs considered preoperatively.

Key words. Reconstructive dermatologic surgery, facial region, rhombic flap, Limberg flap, zygomatic region, V-to-T closure, defect closure, lower lip region, vermillion, mucosal/cutaneous lesion, skin cancer, basal cell carcinoma, squamous cell carcinoma.

Introduction.

Although innovations in dermatology continue to evolve, dermatosurgical and reconstructive surgical techniques remain essential for skin cancer management [1]. These procedures are often required to achieve complete tumor excision with histologically clear surgical margins and appropriate defect closure, particularly when nonsurgical or less complex reconstructive options are unsuitable or fail to provide satisfactory oncologic or functional outcomes [1].

Classical geometric flap designs are based on precise anatomical and geometric principles that optimize the distribution of tension vectors, hence minimizing the risk of wound dehiscence, dog-ear deformities, and tissue ischemia [2]. These well-established reconstructive techniques are based on principles of relaxed tension lines, allowing surgical scars to be aligned with natural skin creases and rhytides, thereby improving scar camouflage and overall aesthetic outcomes [2].

Local flaps, which consist predominantly of cutaneous or mucosal tissue, are primarily used for the reconstruction of small defects and are conventionally classified according to their mechanism of movement into advancement, rotation, transposition, and interpolation flaps [2].

The Limberg flap is a geometric transposition flap widely

used in reconstructive dermatologic surgery for the closure of rhomboid-shaped cutaneous defects following skin lesion excision [3]. Its effectiveness relies not only on its fundamental geometric design but also on its ability to accommodate wide surgical margins - particularly in the context of skin cancer excision - without causing structural distortion or excessive tension vectors [3].

Despite continuous innovation and expanding therapeutic options [1], dermatosurgery remains anchored in well-established reconstructive principles that serve as essential milestones in the management of cutaneous but also mucosal defects [4]. At the same time, emerging techniques demonstrate progressively comparable outcomes to those of established reconstructive approaches [5].

Newer techniques, such as V-to-T closure, may achieve more refined and aesthetically favorable postoperative outcomes compared with classical techniques used in the lip region, while also reducing the risk of complications associated with flap advancement [4,5].

We present two patients who underwent reconstructive dermatologic surgery following skin cancer excision: 1) a cutaneous defect in the right zygomatic region reconstructed using a classical geometric rhomboid (Limberg) flap, and 2) a mucosal defect involving the lateral one-third of the lower lip vermillion reconstructed using a novel V-to-T closure technique.

We will discuss the two clinical cases demonstrating distinct reconstructive approaches: one involving a well-established classical technique with predictable and reliable outcomes, and the other employing a more recently described technique that appears to offer improved functional and aesthetic results compared with the original design.

Case Report 1.

A 65-year-old male presented to the dermatology department with a tumorous lesion measuring 2 x 2 cm, located in the right zygomatic region of the cheek. The lesion had been present for approximately 6 years, with recent enlargement in the past year, and was characterized by ulceration, intermittent bleeding and subsequent crust formation (Figure 1). The formation was clinically suspected for basal cell carcinoma.

No family history of skin cancer in any family member. Routine laboratory tests were unremarkable. Enlarged lymph nodes were not palpable. The patient was recommended surgical excision under local anesthesia.

Primary closure was considered unsuitable, due to the anticipated defect size and the associated tension vectors, which would likely cause functional impairment secondary due to the lateral traction of the wound edges. Skin grafting was also deemed suboptimal, particularly regard to color and texture

mismatch. Instead, a local flap - the Limberg flap - was selected as the reconstructive option.

Prior to excision, the lesion in the right zygomatic region was preoperatively marked and excised with appropriate resection margins under local anesthesia with 1% lidocaine diluted with two drops of adrenaline and saline. The resulting primary defect had a rhomboid configuration. Following the classic rhombic (Limberg) transposition flap design, the flap is based on a geometric four-sided defect of equal side length, with two acute angles and two obtuse angles. For any rhomboid defect, four potential flap orientations can be designed.

In this case, the optimal flap was selected from the adjacent cheek inferior to the short axis on the right site of the defect. Due to the key anatomical and biomechanical advantages of the zygomatic region, the cheek represents an optimal donor site for the Limberg flap: 1) the mid-cheek region provides a substantial reservoir of mobile and redundant skin; 2) there is close similarity in skin thickness, color, texture, and sebaceous

characteristics between the two regions; 3) there is favorable alignment of relaxed skin tension lines, which in this region are situated obliquely and horizontally; 4) redirection of the tension vectors reduces the risk of ectropion; and 5) the vascular supply is derived from the subdermal vascular plexus of the cheek, primarily via branches of the facial artery, thereby reducing the risk of ischemia and flap necrosis.

The short axis is oriented perpendicular to the relaxed skin tension lines. The axis is then extended toward the cheek by an equivalent length, thereby creating the first incision line of the flap design. From its endpoint, a second incision is made inferiorly, parallel and equal in length to the opposite side of the rhombus. The newly created rhombus was carefully undermined and elevated in the subcutaneous plane (Figure 2a,b). The flap was then transposed toward the primary defect. The remaining secondary defect was closed with single interrupted 5-0 polypropylene interrupted sutures (Figure 3a). Histological examination revealed an infiltrative adenoid cystic basal cell



Figure 1. Patient 1 - Intraoperative view: A tumorous lesion measuring 2 x 2 cm, located in the right zygomatic region of the cheek, with central ulceration, intermittent bleeding and subsequent crust formation.



Figure 2a,b. Patient 1 - Intraoperative view: Reconstruction with a Limberg flap: careful undermining (a) and elevation in the subcutaneous plane (b).



Figure 3a,b. Patient 1 - Status post-surgical reconstruction: immediate (a) and 20 days postoperative follow-up (b).

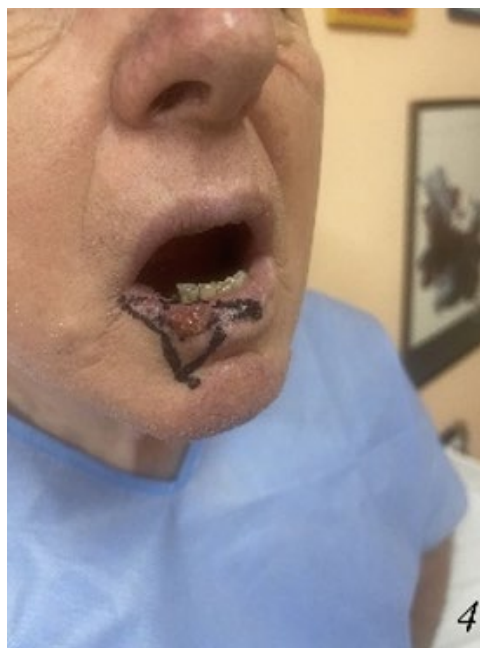


Figure 4. Patient 2 - Preoperative view: A tumorous lesion measuring 1 x 1 cm, located on the right lateral third of the lower lip vermilion.



Figure 5a,b. Patient 2 - Intraoperative view: (a) V-shaped point /wedge excision/: the resulting defect resembles the shape of an acute isosceles triangle, with its base corresponding to the lower vermilion border and its apex directed toward the mentolabial crease; (b) 5-0 polypropylene single interrupted sutures are placed at the V-shaped part of the defect.



Figure 6. Patient 2 - Status post-surgical reconstruction: immediate (a) and 18-days postoperative follow up (b).

carcinoma, staged 1 pT1NxMxR0. No postoperative functional impairment was observed at the 20-day follow-up (Figure 3b).

Case Report 2.

A 69-year-old male presented to the dermatology department with a tumorous lesion measuring 1 x 1 cm, located on the right lateral third of the lower lip vermillion. The lesion had been present for approximately 3 years, with recent enlargement in the past year, and was characterized by intermittent bleeding (Figure 4). The formation was clinically suspected for squamous cell carcinoma.

No family history of skin cancer in any family member. Routine laboratory tests were unremarkable. Enlarged lymph nodes were not palpable. Ultrasound examination of the cervical lymph nodes revealed no pathological changes. The patient was recommended surgical excision under local anesthesia.

Primary closure was not feasible due to the anticipated tension vectors and the associated risk of wound dehiscence. Secondary intention healing was avoided to prevent delayed wound recovery and reduce the risk of vermillion border distortion. Reconstruction with a V-to-T closure was selected.

A 1 x 1 cm tumor located on the right lateral third of the lower lip vermillion, was preoperatively marked and excised with appropriate surgical margins under local anesthesia with 2% lidocaine with two drops of adrenaline. The initial excision of the lesion was performed using an oval incision, which was subsequently extended inferiorly to the mentolabial crease into a "V"-shaped configuration beneath the semicircular defect. The two incisions were oriented vertically with equal limb lengths, converging to form a V-shaped point /wedge excision/. The resulting defect resembles the shape of an acute isosceles triangle, with its base corresponding to the lower vermillion border and its apex directed toward the mentolabial crease (Figure 5a).

Starting from the two basal corners of the defect, two Burrow's triangles were designed and excised. Both triangles were confined entirely to the vermillion, with their inferior

bases positioned along the vermillion border. The left Burrow's triangle was designed to be slightly more elongated than the right to compensate for the left-sided location of the primary circular defect within the vermillion, thereby facilitating a more symmetrical postoperative appearance.

The resulting T-shaped defect allowed for direct primary closure. The surrounding tissue was subsequently undermined in all directions. After ensuring proper alignment of the vermillion border and no displacement of the lip, the initial sutures were placed at the V-shaped part of the defect (Figure 5b). The cutaneous portion was closed with four 5-0 polypropylene single interrupted sutures. The two additional triangles were carefully approximated with the same 5-0 polypropylene single interrupted sutures, completing the V-to-T closure (Figure 6a). The final closure was achieved without distortion of the vermillion or lateral commissures. Histological examination revealed an infiltrative highly differentiated squamous cell carcinoma, staged 1 pT2N0MxR0.

Mild swelling was observed in the first postoperative days, which was successfully managed with systemic corticosteroids and oral antihistamines. No functional deficit was noted postoperatively at the 18-th day follow-up (Figure 6b).

Discussion.

Reconstructive dermatologic surgery following skin cancer excision is often challenging, particularly when lesions involve anatomically complex regions such as the face [6]. In this case, reconstruction must address not only the technical demands imposed by the regional anatomy but also the need to preserve function, minimize facial disfigurement, and achieve an acceptable aesthetic outcome that meets patient expectations [6].

Facial reconstruction represents one of the most challenging areas of reconstructive dermatologic surgery owing to the complex three-dimensional topography of the face and the unique anatomical, biomechanical, and aesthetic characteristics of its individual cosmetic subunits [7]. Successful

reconstruction requires not only restoration of tissue integrity but also preservation of facial symmetry, function, and aesthetic harmony [7].

The face is conventionally divided into six major units - the forehead, periocular region, nose, lips, cheeks, and chin - several of which are further subdivided into distinct aesthetic subunits, each contributing to the overall facial harmony and defining the aesthetic transition to adjacent units [8,9].

Flap reconstruction is generally indicated when primary closure, healing by secondary intention, or skin grafting is not feasible [7]. In facial reconstruction, regardless of the aesthetic unit or subunit involved, flap design should respect the boundaries of the cosmetic unit containing the primary defect, with incisions placed along natural unit borders whenever possible to avoid crossing into adjacent aesthetic units [8].

The cheek is a larger, well-vascularized facial aesthetic unit composed of three overlapping aesthetic zones: suborbital, preauricular, and buccomandibular [10]. Its boundaries are defined laterally by the preauricular crease, inferiorly by the mandibular border, medially by the lips and nasolabial fold, and superiorly by the orbitomalar crease and the zygomatic arch [11].

When planning reconstruction of cheek defects, several options may be considered according to the reconstructive ladder, including primary closure, full-thickness skin grafting, local advancement, and free flaps [11].

Vertical closure is generally preferred because it redirects excess tissue superiorly, thereby minimizing downward tension on the lower lid [12]. The primary reconstructive concern in this region is the generation of excessive tension on the lower eyelid, which may result in distortion or ectropion [12]. In male patients, incision planning should also account for preservation of beard-bearing skin and the temporal hairline to avoid disruption of hair-bearing aesthetic units and subsequent cosmetic deformity [13].

In relation to the anatomical location of the defect in patient 1, when primary closure or skin grafting is not feasible, local flap options such as the rhomboid, circular, or bilobed flaps may be employed [10]. For larger defects, cervicofacial flaps or tissue expansion followed by rotational advancement from a more lateral donor site may be considered [10].

The classical rhombic (Limberg) flap is a versatile, reliable, and well-established local flap technique in reconstructive dermatologic surgery [14]. Its geometric design allows predictable transposition of adjacent tissue with minimal donor-site morbidity and preservation of the neurovascular supply [14]. It is most commonly employed in the head and neck region, particularly in the preauricular area and the zygomatic subunit of the cheek [15].

Modifications of the classical rhombic design, including techniques that combine the principles of the Limberg and Dufourmentel flaps, have been described, with reports of improved vascular preservation and facilitated donor-site closure [16]. However, these modified techniques involve a more complex geometric design than the classical Limberg flap and may therefore increase the risk of technical errors during preoperative planning and intraoperative execution [17].

Lower lip reconstruction following skin cancer excision is essential to restore oral competence while achieving an optimal balance between functional preservation and aesthetic restoration [18]. Beyond its aesthetic importance, the upper and lower lips play a fundamental role in speech articulation, facial expression, oral continence, and sensory perception [18].

The lower lip is considered a single facial aesthetic subunit, bounded superiorly by the interlabial gap, laterally by the melolabial folds, and inferiorly by the mentolabial sulcus [12]. The vermillion border defines the junction between the cutaneous and mucosal components of both upper and lower lips [12].

The choice of reconstructive technique for lower lip defects is primarily determined by the size, depth, cutaneous or mucosal component, and location of the primary defect [12].

A variety of techniques have been described, with wedge resection, mostly V-shaped wedge closure, being most commonly employed for small defects, whereas larger defects may require more extensive reconstructive procedures, including the step flap, Karapandzic flap, Gillies Fan flap, Estlander flap, or Bernard-Burrow-Webster flap [18]. These techniques are typically reserved for defects involving up to two-thirds or more of the lower lip and, although highly effective, are associated with greater complexity and potential complications, including microstomia, prolonged recovery, and delayed sensory restoration, which may require more than 6-months [18].

For vermillion defects involving less than 50% of the lower lip, reconstructive options include a vermillion mucosal advancement flap based on the labial artery or a musculomucosal V-Y advancement flap [12].

When reconstructing lower lip defects, less invasive and technically straightforward procedures should be considered whenever appropriate, provided that oncologic and reconstructive guidelines are maintained [18]. Although current evidence is limited and based on a single case report, the V-to-T closure employed in patient 2 represents a balanced reconstructive option, offering favorable functional and aesthetic outcomes while being technically less demanding than classical advancement techniques, such as the traditional V-to-Y or modified V-to-flying-Y flap [5,19]. Unlike these approaches, which involve reconstruction of both cutaneous and mucosal components of the lower lip, the V-to-T closure relies exclusively on lower lip tissue, thereby avoiding the need for combined tissue reconstruction [5,19].

Conclusion.

Classical reconstructive techniques often achieve excellent outcomes; however, in selected cases, innovative approaches may be required to tailor reconstruction to individual patient characteristics. In terms of outcomes, such individualized strategies may provide improved functional and aesthetic results. Regardless of whether a classical design or a more innovative technique is selected, careful preoperative planning combined with precise intraoperative execution remains essential for optimal surgical outcomes.

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