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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 ВИНИТИ 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 ВИНИТИ РАН-ის მონაცემთა ბაზებში. სტატიების სრული ტექსტი ხელმისაწვდომია EBSCO-ს მონაცემთა ბაზებიდან.

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. Корректура авторам не высылается, 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.

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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, შემაჯამებელი და პროცენტული მონაცემები უნდა შეესაბამებოდეს ტექსტში მოყვანილს.
- 6. ფოტოსურათები უნდა იყოს კონტრასტული; სურათები, ნახაზები, დიაგრამები დასათაურებული, დანომრილი და სათანადო ადგილას ჩასმული. რენტგენოგრამების ფოტოასლები წარმოადგინეთ პოზიტიური გამოსახულებით tiff ფორმატში. მიკროფოტო-სურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შეღებვის ან იმპრეგნაციის მეთოდი და აღნიშნოთ სუ-რათის 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 ფჩხილებში 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: RECONSTRUCTIVE SURGERY EMPLOYING THE SHARK ISLAND FLAP FOR BASAL CELL CARCINOMA AFFECTING THE NASAL ALA

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Abstract.

Reconstructive techniques in dermatologic surgery represent some of the most complex and high-risk interventions, particularly when involving anatomically and cosmetically sensitive areas. These procedures can be considered an intermediate link, combining the expertise of both plastic-reconstructive and dermatosurgical fields. The shark flap in the nasal region offers an excellent option for the reconstruction of small to medium-sized defects involving the nasal area and the nares. Following established surgical algorithms and methodical operative steps ensures optimal functional and aesthetic outcomes.

We present a case of a primary defect following in the right nasal ala, following basal cell carcinoma excision, successfully reconstructed both functionally and aesthetically using a shark island pedicle flap.

The postoperative results at the three-month follow-up were excellent. With this report and short update on the topic, we highlight that a carefully executed classical procedure can, in many cases, provide superior functional and aesthetic outcomes compared to modified or novel techniques.

Key words. Basal cell carcinoma, nasal units, nasal ala, reconstructive techniques, shark island pedicle flap.

Introduction.

The nose is an anatomical structure requiring special attention, as it is central to facial harmony and key determinant of perceived attractiveness [1]. It Is also one of the most prominent and sun-exposed facial units, making it particularly susceptible to skin cancer, especially non-melanoma skin cancers [2,3].

Basal cell carcinoma, a form of non-melanoma skin cancer, is a locally destructive cutaneous malignancy that rarely metastasizes, and predominantly occurs in chronically sun-exposed areas, with the face being among the most frequently affected sites [4].

Some authors propose that cutaneous lesions located in cosmetically or functionally significant areas are best managed with topical treatments or techniques that minimize tissue removal, while maintaining a high probability of complete cure rate [4]. However, the gold standard for the treatment of cutaneous malignancies - particularly non-melanoma skin cancer, which will be discussed below - remains complete

surgical excision with histological margin control, achieving a 5-year recurrence rate of less than 3% in the facial region [5].

For the facial region, grafts and flaps are generally preferred over direct closure for managing primary wound defects [4]. A single stage aesthetic and functional repair is often favored, even in complex cases such as combined lateral ala-adjacent perialar tissue defects [6]. Such one-stage flap repair is the "shark" island pedicle flap, specifically developed for these defects [6]. This technique allows the reconstructive surgeon to: 1) avoid the need for complex graft/flap combinations, 2) restore the natural facial contours, 3) preserve the cosmetic subunits, and 4) achieve time efficiency through completion in a single operative stage [6].

Although not novel for this anatomical region, we present the case of a patient with basal cell carcinoma in the right nasal ala, successfully reconstructed - both functionally and cosmetically - using a shark island pedicle flap. This case demonstrates that surgical success does not always depend on innovation; rather, a well-executed, technically precise procedure can achieve excellent postoperative outcomes and highly satisfactory cosmetic results.

Case report.

A 79-year-old female presented to the dermatology department with primary complaint of a bleeding tumor formation located in the right nostril, present for 6-7 months.

Her medical history included hysterectomy in 2015, acute left-sided heart failure, hypertensive crisis, grade 3 hypertension, mild to moderate mitral regurgitation, mild to moderate tricuspid regurgitation, previous ischemic stroke, combined otoneurological syndrome, hiatal hernia (Hill-1), reflux esophagitis (LA-A), antral erythematous gastritis, dyslipidemia, and biliary reflux.

Dermatological examination revealed a rounded, reddish, bleeding tumor-like lesion with a central crust, measuring 0.5 cm in diameter, located on the right nasal ala and clinically suspicious for basal cell carcinoma (Figure 1).

The lesion was preoperatively marked (Figure 2) followed by surgical removal of the lesion using a circular excision under 2% lidocaine local anesthesia (Figure 3). Reconstruction of the primary wound defect was performed a shark pedicle flap, and the secondary wound defect was closed with single interrupted

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sutures (Figure 4). Histopathological examination confirmed invasive basal cell carcinoma, keratotic variant, with 3 mm depth of infiltration, staged as T1NxMxR1. Postoperative swelling and bruising were observed. Postoperative therapy included loratadine (half a tablet a daily), intravenous methylprednisolon 16 mg, famotidine 40 mg twice daily, and subcutaneous enoxaparin sodium 0.4 ml once daily. Regular follow-up visits were scheduled (Figures 5 and 6), with reexcision recommended if necessary.



Figure 1. A rounded, reddish, bleeding tumor-like lesion with a central crust, measuring 0.5 cm in diameter, located on the right nasal ala, clinically suspicious for basal cell carcinoma.



Figure 2. Preoperative designing of the shark island pedicle flap.



Figure 3. Intraoperative view: primary circular defect.



Figure 4. Intraoperative view: Closure of secondary wound defect with single interrupted sutures.



Figure 5. Postoperative view: after 3 weeks.



Figure 6. Postoperative view after 4,5 weeks.

Discussion.

Traditional alar reconstruction is often achieved using interpolated melolabial flaps or inferiorly based interpolated paranasal flap [7]. Although innovative approaches are available [7,8], a classical, well-executed reconstructive technique can sometimes produce results that are equal to - or even better than - those achieved through modern techniques [9,10]. Reconstruction of the nasal ala remains a surgical challenge, particularly due to potential loss of the nasofacial junction and compromised vascular supply from extensive lateral incisions, as well as the difficulty in achieving an optimal aesthetic outcome [7]. While a variety of closure techniques exist, few can deliver an aesthetically pleasing result in a single-stage procedure [7].

The nasal ala is a common site for cutaneous malignancies [9,10], presenting challenges for the reconstructive surgeon due to its limited mobility and distinctive skin structure - thick and sebaceous [11]. Reproducing the natural arc of the ala and its boundary with the cheek can be particularly challenging for the surgeon [11]. Several factors must be considered when reconstructing such sensitive anatomical area, including: 1) distortion of the nasal contour, which may impair the nasal valve, 2) elevation of the alar rim, 3) disruption of facial symmetry due to loss of definition in the alar crease; 4) swelling and bulging at the flap site, 5) bridging of the nasofacial sulcus; and 6) poor colour and texture match [8].

In certain cases, the primary wound defect may involve multiple cosmetic units; in such instances, a more advanced approach, such as the shark island pedicle flap, can be effectively applied within a single-staged procedure [12]. Primary defects of the alar sulcus and perialar region are deemed to be ideal candidates for reconstruction with this technique [13-15]. Additional techniques, such as pexing sutures or graft/flap combinations, are not required when using this technique [16].

In our case, the primary defect was the key determining factor in selecting the shark island pedicle flap, as it was small to medium in size and located in the nasal ala, in close proximity to other cosmetic subunits such as the nasal columella, nasal sidewall, and adjacent cheek area. The primary objective of this flap is to achieve optimal reconstruction while preserving the natural concavities of the alar nasal sulcus and the anterior nares. Preservation of proper vascular supply, and innervation is also crucial, including the superior labial and lateral nasal arteries and veins, the infraorbital artery and vein, as well as the infraorbital, external nasal, and facial nerves. To enhance the flap's viability, its vascularization is primarily supported by random blood supply within the subcutaneous pedicle, with additional perfusion contributed by the levator labii superioris muscle [17,18]. The flap consists of two components - an advancing component and a rotational component [17]. A series of carefully placed incisions gives the techniques its name, due to its distinctive "shark" appearance, while the resulting secondary defect resembles a "shark with its jaws open" [17,18]. The shark island pedicle flap does not require cartilage grafting for smaller defects, as it naturally provides enough rigidity and stability by itself [19]. Although the shark pedicle flap is a classical technique, it can be adapted to address even combined ala-perialar defects [20].

In such delicate areas with well-defined aesthetic units, the challenge lies not only in preserving vascular supply but also in maintaining the integrity of the alar sulcus, which forms the boundary between the nasal ala and the cheek [18]. This reconstruction technique offers the dual advantage of achieving a tumor-free outcome while delivering excellent aesthetic results [21].

Conclusion.

Loss of the alar subunit represents a significant challenge in the reconstruction of primary nasal defects. This report marks our third successful application of the shark island pedicle flap for nasal unit reconstruction. Our experience reinforces the principle that, when executed with precision, this established technique can reliably achieve optimal functional and aesthetic outcomes, with a high degree of patient satisfaction.

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