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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 compu-ter-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 საყურადღებოდ!

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. მიკროფოტოსურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შეღებვის 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 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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CLINICAL APPLICATION OF THE PALATAL MUCOSAL OPEN HEALING INDEX FOR EVALUATION OF PALATAL DONOR SITE HEALING

Yusup A. Bakaev, Mariya E. Makarova, Zurab S. Khabadze, Nikita A. Dolzhikov, Gor G. Avetisian, Dzhandet F. Rasulova, Anastasya A. Ivina, Ekaterina E. Starodubtseva, Daria A. Pervozvanova, Alisa A. Vavilova, Khalid Yu. Halituev, Nadejda A. Khachatryan, Oleg S. Mordanov.

Peoples' Friendship University of Russia named after Patrice Lumumba (RUDN University), Moscow, Russian Federation.

Abstract.

Introduction: Modern oral surgery requires objective and reproducible tools for assessing soft tissue healing. The Palatal Mucosal Open Healing Index (PMOHI) is a clinical parameter that enables standardized monitoring of epithelialization and tissue repair following surgical interventions.

Objective: To evaluate the significance of the Palatal Open Healing Index as a clinical criterion for monitoring and predicting soft tissue regeneration.

Materials and Methods: A total of 192 patients diagnosed with localized gingival recession underwent clinical examination and surgical treatment. Following free gingival graft harvesting, patients were divided into six groups according to the management technique of the palatal donor site. Palatal donor site healing under open wound conditions was assessed using the Palatal Mucosal Open Healing Index (PMOHI).

Results: Clinical evaluation of donor site healing was performed on postoperative days 7 and 14. Healing without coverage was assessed using a 5-point scale according to the PMOHI. On day 7, in group 1: 21.9% of cases were scored as 1 (very poor healing: initial epithelialization <10%, bleeding); 68.7% scored 2 (poor healing: epithelialization ≤20%, fibrin coating); 9.4% scored 3 (satisfactory healing: epithelialization up to 40%). In group 6 (with protective stent): 84.4% scored 4 (good healing: epithelialization up to 70%), and 3.1% scored 5 (complete healing). These differences between groups were statistically significant ($p \leq 0.001$). Pairwise comparisons demonstrated that group 6 (with stent protection) had significantly better outcomes than groups 1, 2, and 5 (open healing). In most patients, open wound management on day 7th was associated with poor or very poor healing.

Conclusion: The palatal open healing index is an informative and versatile tool that provides a standardized assessment of regenerative processes, thereby improving diagnostic accuracy, prognosis, and the effectiveness of treatment strategies in surgical dentistry.

Key words. Palate mucosa, donor area, autograft, open healing index.

Introduction.

Restoration of oral mucosal integrity is critical in the postoperative period following surgical interventions in dentistry and maxillofacial surgery. The assessment of palatal wound healing is most often required after harvesting free gingival or connective tissue grafts, reconstructing alveolar defects, and performing procedures on the hard and soft palate. Therefore, clinicians frequently face the need to evaluate both the speed and quality of tissue regeneration.

Oral mucosal and cutaneous wounds follow comparable temporal and biological patterns of healing; however, the oral mucosa appears to heal more rapidly and with less scar formation [1-3].

After harvesting soft tissue, palatal wounds undergo four partially overlapping phases: hemostasis, inflammation, granulation, and maturation [4-7]. Since palatal soft tissue healing involves multiple stages, reliable evaluation tools are required. Complete epithelialization is usually achieved within 3–5 weeks [8-9]. A common method for assessing epithelial closure involves applying hydrogen peroxide to the palatal wound; the absence of bubble formation suggests that the solution does not penetrate into connective tissue to release oxygen, thus indicating complete epithelialization [10-11].

The first published Healing Index (HI) was introduced by Landry et al. in 1988, assessing tissue color, bleeding on palpation, presence of granulation tissue, condition of incision margins, and suppuration [12]. Scores range from 1 (very poor) to 5 (excellent). The Early Healing Index (EHI) proposed by Wachtel et al. grades healing on a 5-point scale, evaluating flap closure, fibrin deposition, and necrosis. In 2004, Hagenaar et al. developed a 3-point index (0–2) assessing gingival edema and color [13]. In the same year, Tonetti et al. described a dichotomous index based on edema, hematoma, suppuration, flap dehiscence, and patient complaints. In 2005, Juan et al. proposed the wound healing index (WHI), which evaluates periodontal soft tissue healing on a 3-point scale [14]. A score of 1 indicates absence of edema, erythema, suppuration, patient discomfort, and flap dehiscence; a score of 2 reflects spontaneous healing with mild edema, erythema, discomfort, and flap dehiscence but without suppuration; a score of 3 corresponds to poor healing with marked edema, erythema, suppuration, patient discomfort, and flap dehiscence, or any occurrence of suppuration.

However, none of these indices fully reflect the entire spectrum of palatal wound healing, which underscores the relevance of the present study.

Objective. To evaluate the applicability of the palatal mucosal open healing index as a clinical criterion for monitoring and predicting soft tissue regeneration.

Materials and Methods.

This study was conducted at the Department of Therapeutic Dentistry, RUDN University, 192 patients were examined and surgically treated with a diagnosis: 96 with localized gum recession (ICD-10: K06.0) and 96 with tooth loss due to trauma, extraction, or localized periodontitis (ICD-10: K08.1). After the examination and diagnosis, patients who met the inclusion criteria were randomly divided into 6 study groups (n = 32 per group):

1. Group 1: donor site covered with ethyl-cyanoacrylate adhesive.
2. Group 2: donor site covered with butyl-cyanoacrylate adhesive.
3. Group 3: donor site covered with collagen sponge, fixation sutures, and ethyl-cyanoacrylate adhesive.
4. Group 4: donor site covered with collagen sponge, fixation sutures, and butyl-cyanoacrylate adhesive.
5. Group 5: donor site covered with collagen sponge and fixation sutures.
6. Group 6: donor site covered with a polypropylene obturation mouthguard.

In Groups 5 (collagen sponge without adhesive) and 6 (protective obturation stent), wound coverings were temporary and non-adherent. Clinical assessment using PMOHI was performed only after spontaneous partial or complete disintegration or removal of the covering material. No forced removal of wound coverings was performed for evaluation purposes.

The Palatal Mucosal Open Healing Index (PMOHI) was applied exclusively to clinical situations where direct visual assessment of epithelialization was possible. Groups 3 and 4, in which the palatal wound was covered by a collagen sponge fixed with sutures and cyanoacrylate adhesive, were excluded from PMOHI evaluation because persistent wound coverage precluded direct visualization of the healing surface.

Palatal wound healing after graft harvesting was assessed using the Palatal Mucosal Open-Healing Index (PMOHI), adapted from the Landry, Turnbull, and Howley healing index (1988). The modified index incorporated additional clinical parameters relevant to palatal tissue, including hemostasis, inflammation, and wound coverage.

Clinical assessment was performed by trained clinicians who were not involved in the surgical procedures. Prior to the study, evaluators underwent calibration sessions using standardized clinical photographs to harmonize PMOHI score interpretation and reduce inter-observer variability. Clinical evaluation was performed on postoperative days 7 and 14, corresponding to the proliferative phase of secondary healing. The groups 1,2,5,6 were evaluated using the Palatal Mucosal Open-Healing Index. Examinations were carried out under natural or artificial illumination with a headlamp and dental mirrors. To ensure reproducibility, standardized macrophotographs of the wound surface were taken with a Canon EOS 550D camera and 100 mm macro lens at a fixed distance.

The interpretation of PMOHI scores is summarized in Table 1. As representative clinical photographs for all PMOHI scores were not available for inclusion, the descriptive component of Table 1 was expanded to provide objective, threshold-based clinical criteria (epithelialization percentage, bleeding response, inflammatory spread, and tactile characteristics), allowing reproducible score assignment without visual references.

For multiple group comparisons, appropriate nonparametric tests were applied. Where applicable, adjustments for multiple comparisons were considered to reduce the risk of type I error.

Results.

Clinical evaluation of palatal donor site management was performed on postoperative days 7 and 14. Healing was assessed using the palatal mucosal open healing index, scored on a 5-point scale (0–5), where a score of 5 corresponds to complete epithelialization. On day 7, the following results were observed: group 1 - 21.9% – score 1 (very poor healing: initial epithelialization < 10%, bleeding). 68.7% – score 2 (poor healing: epithelialization < 20%, fibrinous plaque), 9.4%

Table 1. *The interpretation of open soft tissue healing index.*

Score	Epithelialization (visual criteria)	Hemostasis (clinical test)	Inflammatory response (objective signs)	Tactile / surface characteristics	Overall clinical interpretation
0	No visible epithelial coverage; exposed connective tissue over entire wound surface	Active bleeding at rest or after gentle air drying; unstable or absent clot	Severe diffuse erythema (>3 mm from wound margin), pronounced edema, purulent or serohemorrhagic exudate	Soft, friable tissue; pain on minimal contact	Absent healing — pathological course with failure of early reparative processes
1	Initial epithelial islands covering <10% of wound surface	Bleeding on gentle palpation; fragile clot	Marked erythema and edema (>2 mm), inflammatory exudate	Moist, uneven surface; pronounced tenderness	Very poor healing — delayed epithelial response with active inflammation
2	Partial epithelialization ≤20% of wound surface; fibrin layer covering >50% of defect	Bleeding on palpation; loosely adherent clot	Pronounced erythema and edema (1–2 mm from margins)	Moist surface with fibrin deposits; moderate pain	Poor healing — slow epithelial migration, inflammatory phase predominates
3	Moderate epithelialization covering 20–40% of wound surface	No active bleeding; clot preserved	Mild edema and moderate erythema (<1–2 mm)	Slightly moist surface; tissue resilient on probing	Satisfactory healing — transition from inflammatory to proliferative phase
4	Advanced epithelialization covering 40–70% of wound surface	Stable hemostasis; no bleeding on palpation	Minimal marginal erythema (<1 mm), no edema	Smooth, semi-dry surface; minimal discomfort	Good healing — active epithelial maturation and tissue stabilization
5	Complete epithelialization with epithelial invagination into submucosal layer	Complete hemostasis; normal tissue consistency	No erythema, edema, or exudate	Dry, smooth, firm surface; asymptomatic	Excellent healing — complete restoration of mucosal integrity

– score 3 (satisfactory healing: epithelialization up to 40%). Group 6 (with mouth guard): 84.4% – score 4 (good healing: epithelialization up to 70%); 3.1% – score 5 (complete healing), which demonstrates the high significance of the differences ($p < 0.001$) between the groups. These findings indicate a highly significant difference between groups ($p \leq 0.001$). Pairwise comparison showed that Group 6 (with mouthguard) demonstrated significantly better outcomes than Groups 1, 2, and 5 (open healing). In contrast, open healing management in most patients on day 7 was associated with poor or very poor healing (scores 1–2).

The results are summarized in Table 2, with aggregated PMOHI score distributions for day 7 presented in Figure 1.

Table 2. *Aggregated data on the distribution of scores on the PMOHI scale on the 7th day.*

Score on the index scale on the 7th day	**Group 1**	**Group 2**	**Group 5**	**Group 6**
1 – very poor healing	21,9%	9,4%	18,8%	–
2 – poor healing	68,7%	81,2%	71,8%	–
3 – satisfactory healing	9,4%	9,4%	9,4%	12,5%
4 – good healing	–	–	–	84,4%
5 – excellent healing	–	–	–	3,1%

On day 7, group 6 showed significantly better healing compared to the other groups. By day 14, group 6 had achieved almost complete healing (score 5), while group 3 remained at lower scores, indicating delayed healing. In groups with open wound management, even by day 14, complete healing was not achieved (scores of 3-4 prevail). The data on the joint distribution of groups by healing index scores are presented in the table (Table 3).

Table 3. *Joint distribution of groups according to the PMOHI scale scores on the 14th day.*

Score on the index scale on the 14th day	**Group 1**	**Group 2**	**Group 5**	**Group 6**
3 – satisfactory healing	12,5%	3,1%	53,1%	–
4 – good healing	53,1%	56,3%	46,9%	12,5%
5 – excellent healing	34,4%	40,6%	–	87,5%

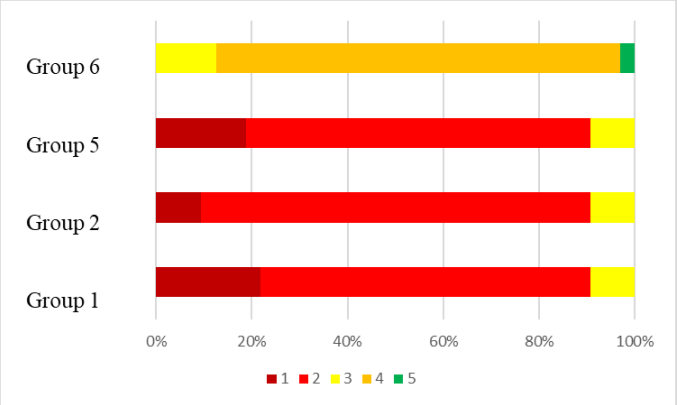

Figure 1. *Aggregated data on the distribution of scores on the PMOHI scale on the 7th day.*

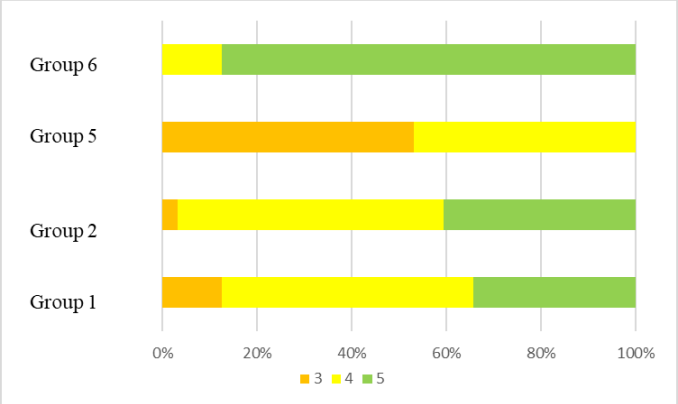

Figure 2. *Joint distribution of groups according to the PMOHI scale scores on the 14th day.*

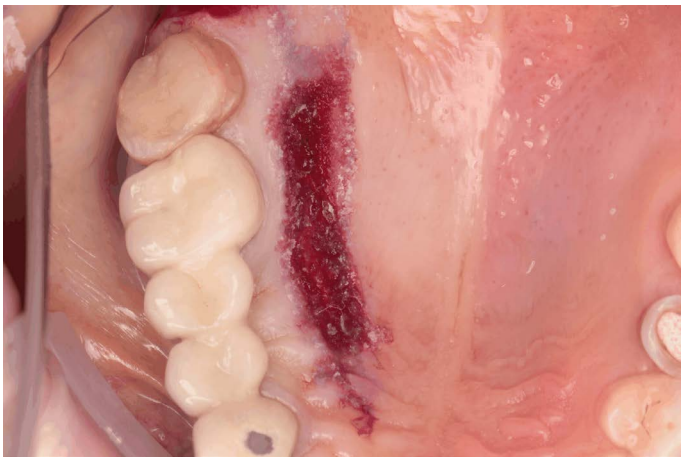

Figure 3. *The state of the donor area on the first day of surgery.*

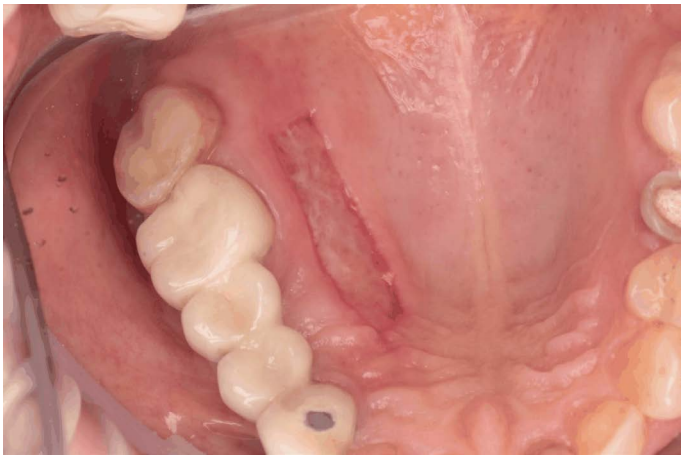

Figure 4. *Active epithelialization donor zone on day 7th. According to the patient, the wound covering was disintegrated on day 5. Score 4 on PMOHI (epithelialization up to 70%. There is no bleeding on palpation, good hemostasis – good healing).*

Figure 5. *Stabilization and maturation Donor zone on day14th.*

An example of evaluating the practical use of the index to describe the donor zone on the palate after taking a free gingival autograft is demonstrated in a clinical case. The patient was referred by an orthopedic dentist for plastic surgery of the vestibule of the oral cavity around the implant on the lower jaw on the left. After the examination, the gum recession was diagnosed by ICD-10: K06.0. An operation was performed to enlarge the attached keratinized mucosa using medical glue based on butyl cyanoacrylate as a wound coating on the donor area.

The condition of the donor area on the day of surgery is shown in the figure (Figure 3).

The clinical evaluation of the management of the palatal donor site using a butyl-cyanoacrylate–based medical adhesive was performed on postoperative days 7 and 14 (Figures 4 and 5). The condition of the wound surface was assessed using the open healing index.

Discussion.

One of the contemporary tools for this purpose is the Palatal Mucosa Open Healing Index (PMOHI) [11,13]. The PMOHI is a clinical parameter that reflects the degree of epithelialization and mucosal recovery following surgical trauma, when the wound surface heals as an open wound without primary closure. The assessment of this index has important clinical and practical implications in several aspects:

1. Postoperative monitoring — provides an objective evaluation of the healing process after harvesting connective tissue grafts from the palate.

2. Comparative assessment of different donor site management techniques — serves as a tool in scientific research to compare the effectiveness of various surgical and regenerative approaches.

3. Complication prediction — delayed epithelialization may indicate potential risk factors (reduced local immunity, smoking, systemic diseases), thereby supporting recommendations for the use of adjunctive medical measures. Although certain PMOHI parameters are based on visual estimation, objectivity is enhanced through predefined categorical thresholds, evaluator calibration, and standardized clinical assessment conditions. These measures reduce subjectivity and support PMOHI as a reproducible and clinically applicable index.

Furthermore, the use of this index allows the identification of factors influencing its value and the condition of tissues during healing. Such factors include the general reactivity of the organism, patient age, size and depth of the defect, quality of hemostasis, application of membranes and wound dressings, and oral hygiene status.

Conclusion.

The Palatal Mucosa Open Healing Index is a practical and informative tool that enables an objective assessment of soft tissue regeneration dynamics following surgical interventions. Its application in both clinical practice and research promotes the standardization of approaches, improves prognostic accuracy, and enhances the quality of patient care in surgical dentistry.

Conflict of interests.

The authors declare no conflict of interests.

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