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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 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. Корректур 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 საქურაღებოლ!

რედაქციაში სტატიის წარმოდგენისას საჭიროა დაიცვათ 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. რენტგენოგრაფიების ფოტოასლები 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.

K.S. Altynbekov, N.I. Raspopova, A.A. Abetova. ANALYSIS OF SOCIAL AND DEMOGRAPHIC AND CLINICAL CHARACTERISTICS OF PATIENTS WITH PARANOID SCHIZOPHRENIA OF THE KAZAKH ETHNIC GROUP IN THE REPUBLIC OF KAZAKHSTAN.....	6-13
E.A. Karton, F.H. Dzgoeva, M.V. Shestakova, I.G. Ostrovskaya, Taigibov M.H. INVESTIGATION OF THE LEVEL OF MONOSACCHARIDES IN SALIVA OF PATIENTS WITH IMPAIRED CARBOHYDRATE METABOLISM.....	14-18
Seoul-Hee Nam. EVALUATION OF THE ANTI-CARIES EFFECT OF <i>LESPEDEZA CUNEATA</i> EXTRACT AGAINST <i>STREPTOCOCCUS</i> MUTANS.....	19-22
Kudrin AP, Borzykh NA, Roy IV, Rusanov AP, Melenko VI. EVALUATION OF THE EFFECTIVENESS OF PHYSIOTHERAPEUTIC INTERVENTIONS IN THE TREATMENT OF THORACIC PAIN IN PATIENTS WITH THORACIC OSTEOCHONDROSIS.....	23-28
E.Saralidze, I.DiasamiDze, L.Khuchua. THE CHANGES OF EPILEPTOGENIC THRESHOLD IN HIPPOCAMPUS DURING NORMAL SLEEP – WAKING CYCLE.....	29-32
Kucher I, Liabakh A. BIOMECHANICAL COMPARISON OF THREE POSTERIOR MALLEOLUS FRACTURE FIXATION METHODS IN RELATION TO DIFFERENT FRACTURE MORPHOLOGY: A FINITE ELEMENT ANALYSIS.....	33-40
Balytskyy V, Zakharash M, Kuryk O. INFLUENCE OF A VARIETY OF SUTURE MATERIAL ON THE ANAL CANAL WOUNDS HEALING AFTER COMBINED OPERATIONS CONCERNING THE COMBINED ANORECTAL PATHOLOGY WITH USING OF MODERN TECHNOLOGIES.....	41-48
Quanhai Wang, Lianping He, Yuelong Jin, Yan Chen, Yingshui Yao. OLDER FARMERS OR ILLITERATE OLDER ADULTS ARE MORE LIKELY TO FALL: A COMMUNITY-BASED STUDY FROM CHINA.....	49-52
Abeer Abd Al Kareem Swadi, Nihad N. Hilal, Mohammed M. Abdul-Aziz. THE ROLE OF MELATONIN AND VITAMIN D IN IRAQI PREMENOPAUSAL WOMEN OSTEOARTHRITIS PATIENTS.....	53-56
I.S.Rudyk, D.P.Babichev, O.O.Medentseva, S.M.Pyvovar, T.D. Shcherban. COURSE OF POST COVID-19 DISEASE IN HEART FAILURE PATIENTS WITH MODERATELY REDUCED LEFT VENTRICULAR EJECTIONFRACTION.....	57-62
Mohammed H. AL-Shaibani, Maha T. Al-Saffar, Abdulsattar S. Mahmood. THE IMPACT OF ALOE VERA GEL ON REMINERALIZATION OF THE TOOTH AND ITS EFFECT AGAINST ENTEROCOCCUS FAECALIS: AN IN VITRO STUDY.....	63-68
Safaa Hussein Abdullah Al-Oda, Shatha Khudiar Abbas, Khetam Habeeb Rasool. IMPACT OF BLASTOCYSTIS HOMINIS INFECTION ON IMMUNOLOGICAL PARAMETERS IN PATIENTS WITH DIARRHEA: A CROSS-SECTIONALSTUDY.....	69-73
Tereza Azatyan, Lusine Stepanyan. A STUDY OF SPATIAL ORIENTATION AND CONSTRUCTIVE PRAXIS DISORDERS IN NORMALLY DEVELOPING AND MENTALLY RETARDED CHILDREN AGED 8-11.....	74-77
Sh. Kevlishvili, O. Kvlividze, V. Kvirvelia, D.Tananashvili, G. Galdava. SOCIO-ECONOMIC FEATURES OF SEXUALLY TRANSMITTED INFECTIONS AMONG MSM IN GEORGIA.....	78-86
Georgi Tchernev, Simona Kordeva, Valentina Broshtilova, Ilia Lozev. CONGENITAL LYMPHANGIOMA OF THE FOOT MIMICKING MULTIPLE VIRAL WARTS: DERMATOSURGICAL APPROACH WITH SECONDARY WOUND HEALING AND FAVOURABLE FINAL OUTCOME.....	87-90
Fatma S. Abd-Alqader, Entedhar R. Sarhat, Zaidan J. Zaidan. EVALUATION OF THE ROLE OF COENZYME Q 10 IN THE BLOOD OF BREAST CANCER WOMEN.....	91-95
Lezhava T, Kakauridze N, Jokhadze T, Buadze T, Gaiozishvili M, Gargulia Kh, Sigua T. FREQUENCY OF VKORC1 AND CYP2C9 GENES POLYMORPHISM IN ABKHAZIAN POPULATION.....	96-101
Jiangrong Luo, Chunbao Xie, Dan Fan. IS IT MEANINGFUL FOR SERUM MYOGLOBIN IN PATIENTS WITH COVID-19 DECREASED?.....	102-103
Mucha Argjent, Pavlevska Elena, Jovanoska Todorova Biljana, Milenkovik Tatjana, Bitoska Iskra, Jovanovska Mishevaska Sasa. INSULINOMA OF THE TAIL OF THE PANCREAS – A CASE REPORT.....	104-107

Mukola Ankin, Taras Petryk, Igor Zazirnyi, Olena Ibrahimova. SURGICAL TREATMENT OF OLD PELVIC INJURIES.....	108-114
Georgi Tchernev, Valentina Broshtilova. ADVERSE DRUG EVENTS: LICHEN PLANUS OF THE PENIS AFTER INTAKE OF NEBIVOLOL- FIRST REPORTED CASE IN THE WORL DLITERATURE.....	115-116
Borzykh AV, Laksha AM, Borzykh NA, Laksha AA, Shypunov VG. STRATEGY OF RECONSTRUCTIVE AND RESTORATIVE INTERVENTIONS FOR HAND TISSUE DEFECTS.....	117-120
S. Guta, O. Abrahamovych, U. Abrahamovych, L. Tsyhanyk, M. Farmaha. INFECTIOUSNESS OF SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS WITH CYTOMEGALOVIRUS AND EPSTEIN-BARR VIRUS.....	121-125
Wejdan Al-Shakarchi, Yasir Saber, Marwan M. Merkhan, Yasser Fakri Mustafa. ACUTE TOXICITY OF COUMACINES: AN <i>IN VIVO</i> STUDY.....	126-131
Tchernev G, Kordeva S, Lozev I, Cardoso JC, Broshtilova V. SUBUNGUAL HEMATOMA OVERLAPPING WITH SUBUNGUAL LOCATED FOCAL MELANOCYTIC HYPERPLASIA: DERMATOSURGICAL APPROACH AS OPTIMAL TREATMENT CHOICE.....	132-134

CONGENITAL LYMPHANGIOMA OF THE FOOT MIMICKING MULTIPLE VIRAL WARTS: DERMATOSURGICAL APPROACH WITH SECONDARY WOUND HEALING AND FAVOURABLE FINAL OUTCOME

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Abstract.

The problems with lymphangiomas in general stem from the fact that on the one hand they most often show an atypical clinical picture, and on the other hand their localization does not always allow the desired complete surgical removal.

Lymphangiomas are rare and benign tumors of the lymphatic vessels. In the higher percentage of cases, they are defined as congenital malformations. The acquired type can manifest due to a variety of external factors, resulting in a benign distinct lesion, which can often be mistaken for another benign or malignant one. Although benign and even surgically treated, the recurrence rate is high. The pathogenesis of these tumours is unclear and is presumed to be due to an error in the fetal/embryonal development. Nosologically, these lesions belong to the group of so-called low flow lesions. Within the framework of their differentiation, it is important to distinguish them from hemangiomas and venous malformations, as although overlapping to some extent, at times- therapeutic options differ. This differentiation is most adequately accomplished by the application of MRI and Doppler, necessarily accompanied by histopathologic verification of the lesion. Spontaneous regression, although rare, occurs in up to 6% of cases. Surgical removal remains the safest method of treatment to date, and according to the literature this is possible in only 18 to 50% of cases. Often, however, the atypical clinical presentation of some of the lesions could be confusing for clinicians and could be the reason for prolonged and unsuccessful conservative or semi-invasive therapy.

We present a 23-year-old patient with a history of complaints of more than 15 years in the form of itching, burning, and discomfort in the left foot area. The finding was treated under the diagnosis of viral warts with variable results and subsequent achievement of short-term remissions for no more than 5-6 months.

Due to an increase in pain symptomatology and an increase in the size of the lesion after the last cryotherapy, a skin biopsy was taken to confirm the diagnosis of lymphangioma. During hospitalization, the patient underwent MRI/Doppler of the vessels to determine the depth of infiltration and the presence/exclusion of communication to larger vascular formations for preoperative planning. Surgery was performed with secondary wound healing resulting in a favourable outcome.

Key words. Lymphangioma, dermatologic surgery, secondary wound healing, MRT, histopathology, viral warts.

Introduction.

Lymphangiomas are rare and benign defects of the lymphatic system appearing on the skin and mucous membranes [1].

The condition can be classified as deep and superficial or as congenital and acquired [1]. Superficial types can be further divided as lymphangioma circumscriptum and as an acquired form, also described in the literature as lymphangiectasia [1].

Acquired lymphangioma is a result from previously normal lymphatic vessels that have been compromised by external causes resulting in dilated lymphatics [1].

Clinically it can present as multiple nonsymptomatic papules or vesicles filled with clear fluid or it can mimic a wart when presented with a verrucous surface [2].

We present a case of patient with congenital lymphangioma of the foot mimicking viral warts treated successfully via surgery.

Case report.

A 23-year-old male came to the dermatology department with a 15-year-old lesion on the left foot, which gradually grew after being treated repeatedly with local therapy, without effect.

He denied having other comorbidities or allergies. The family history for skin malignancies was negative.

The patient requested a physical examination and further therapeutic approach to be established.

The dermatological examination showed on the plantar surface of the left foot, a tumor-like lesion with an irregular shape, covered with hemorrhagic crusts, about 4-5 cm in size (Figure 1a,b).



Figure 1. 1a: A tumor-like lesion with an irregular shape, located on the plantar surface of the left foot, covered with hemorrhagic crusts, about 4-5 cm in size. 1b: Preoperative marking of the lesion.

Routine blood tests were performed resulting without abnormalities except for the RBC – 6.2/uL (normal range 4.7-

6.1 u/L for males). Enlarged lymph nodes were not palpable.

Magnetic resonance tomography (MRT) was ordered. In the lower-medial part of the posterior part of the left foot, a lesion with an irregular oval shape was visible, measuring 25/15/13 mm (Figure 2a,b). The lesion had heterointense signal intensity - the peripheral part was low-signal in all sequences, and the central part was high-signal in fat-suppressed sequences and low in T1. Its contours were uneven, with low-intensity streaks drawn to the adjacent fatty tissue. The lesion was confined to the fatty tissue of the foot and protruded above the skin. Adjacent bones, muscles and plantar fascia were intact. Preserved configuration and signal intensity of the bones of the left foot were noted. There was no evidence of bone marrow edema. Preserved articular spaces of the tarsal and tarso-metatarsal joints were established. The results were indicative of a tumor formation on the plantar surface of the back of the left foot.

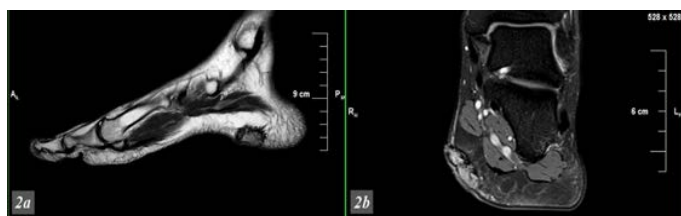


Figure 2a,b. Magnetic resonance tomography (MRT). In the lower-medial part of the posterior part of the left foot, a lesion with an irregular oval shape was visible, measuring 25/15/13 mm.

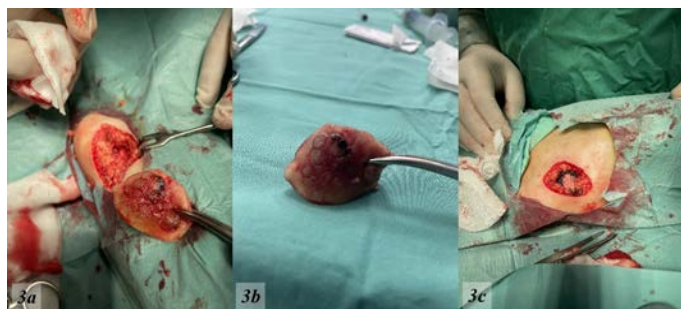


Figure 3a-c. Excision of the tumor lesion under local anesthesia.

Vascular doppler was also performed resulting in a presence of a neoplasm on the plantar surface of the left foot involving the skin and subcutaneous tissue of d-4 cm, with preserved pulsations up to the level of the foot arteries.

The patient was recommended surgery. He agreed and under a local anesthesia, the tumor formation was excised (Figures 3a-c). Histopathology showed an ill-demarcated, hypodermis-prominent lympho-vascular malformation, represented by compact orthohyperkeratosis, uniform acanthosis, proliferation of variegated vascular lacunae covered by single-layered endothelium, filled with erythrocytes, located in a myxoid stroma, and dilative lymphatic vessels located in a fibrous stroma containing venules with thickened walls, with clean resection lines (Figure 4a). The immunohistopathological evaluation corresponded to a lymphovascular malformation (Figures 4b,4c). The postoperative period was without complications (Figures 5a-f). Daily dressings with povidone iodine were performed (Figure 5a). The wound defect was

left for a secondary wound healing (Fig.5b-f). The patient was prescribed metamizole sodium 1 amp a day and tramadol 1 amp daily if needed.

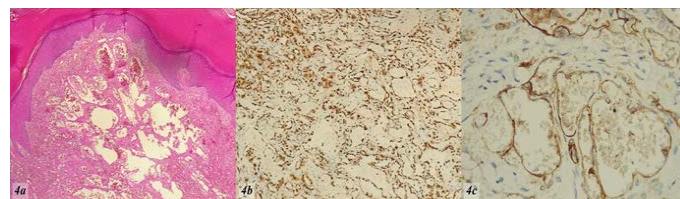


Figure 4. Histological picture

4a: x40 HE – admixture of malformed vessels such as capillaries, arteries, venules in the papillary and reticular dermis

4b: x100 Erg – edematous endothelial cells, abrupt changes in medial and elastic layers of venules and arterioles

4c: x400 D2-40 – ecstasic lymph vessels of various lumens.



Figure 5a-f. Postoperative stages of a secondary wound healing (b-f).

Discussion.

Lymphangiomas are described in the literature as rare benign proliferations which represent about 26% of all benign vascular tumors [3]. The condition can be classified as congenital or acquired one [4].

Acquired lymphangioma is a superficial type of lymphangioma and its rare development may be due to external factors [3]. Tissue scars from surgery or radiotherapy can cause an obstruction to the lymphatic vessel, causing lymph flow retraction and dermal lymphatic vessel dilatation [2]. Infections, trauma, tumor obstruction of the lymphatic vessels, scleroderma, topical corticosteroids, and other external causes can lead to the development of an acquired lymphangioma [2].

The first description of lymphangioma in literature was done by Redenbacher in 1828 [5]. Incidence rates of 50% at birth and 90% before the age of two years were established [5].

Robinson WE described in 1924 the first case report of a 7-month-old child with lymphangioma of the foot [6]. The

physical examination showed an “overgrowth” in the area of the metatarsal bones and terminal phalanges [6]. They performed an X-ray which resulted in “perfectly normal bones” for the child's age [6]. The rare case (for the time period) made several clinicians question its genesis and different opinions on the further treatment were discussed [6].

In contrast to the congenital type, lymphangiectases manifest in adults with predisposition sites such as surgical scars, genital and gluteal areas, and the limbs [7-10].

Acquired lymphangioma can also manifest in different areas of the body previously treated with radiation therapy, for infection such as erysipelas, congenital lymphedema, congenital dysplastic angiopathy and other conditions [11].

The age of the lesion in the described patient according to the anamnestic data is about 15 -16 years and in practice he remembers it since the first grade or when he was 7- 8 years old. The lack of trauma or surgical intervention in the affected area of the foot determines the nosological recognition of the tumor lesion as a congenital lymphangioma with relatively late manifestation.

Since lymphangiomas grow proportionally with the growth of the affected individuals (this rate being variable and not constant), their clinical manifestation (albeit rare and in a small percentage of cases) becomes evident only during early childhood-such as first grade or preschool age, for example [12]: 50-65% of lymphangiomas are clinically diagnosable at the time of birth, 80-90% within the first 2 years after birth, and the percentage of de novo manifestations beyond adolescence is quite low [13,14]. The lesion we described falls into the category of congenital malformation of lymphatic vessels becoming manifest early in childhood, increasing in size in proportion to the growth of the affected individual.

The extremities are rarely affected and thus can be easily mistaken with a malignant formation such as melanoma, especially, if there are also hemorrhages, which are caused by nastik and bursting and of vessels in the vicinity [15]. On a dermatological examination the condition may manifest as multiple papules or vesicles, 2-5mm in size, filled with clear to milky fluid or they can appear as warts [2]. Between the lesions, the skin looks normal, unaffected but may present with lymphedema [2]. On histology, dilatation of the lymphatic vessels in the dermis can be seen [2]. Further immunohistochemical methods can be used in order to differentiate the condition from others, verrucous hemangiomas for example [2,3].

An additional ultrasound, CT or MRT can be used in terms of distinguishing the nearby structures and plan a furthermore precise surgical management of the formation [16-19].

It is important to have a correctly diagnosed patient in order to achieve the best possible treatment results. Our patient was repeatedly treated with local therapy for viral warts , which resulted in increase in size and shape of the formation. The delay in the patient's diagnosis often results in the use of more invasive approaches, such as surgical excision.

Therapeutic options, for example cryotherapy and laser therapy can be used [2], but complete surgical resection may be the best option in terms of recurrent rate [19-22]. Eliminating the risk of recurrence could be achieved with a total resection of

the formation, and in certain cases therapy may be combined , for example: sclerotherapy and surgery simultaneously [19-22].

Nonsurgical methods have been described to have moderate success such as radiotherapy, sclerotherapy with bleomycin, tetracycline, steroids, and the newly described treatment with picibanil (OK-432) [23-27] . These methods can be used when surgery cannot be performed due to medical concerns, problematic lesional location or the patient's personal choice. Intralesional injection with OK-432 is reported to be effective as treatment of an unsuccessful surgical excision, incomplete therapy with bleomycin or even as a primary therapy [24]. However, this method can result without response for some of the patients. Complications may occur after treatment with pain and chronic drainage being the most commonly reported [2].

Conclusion.

We present a 23-year-old male with a 15-year-old lesion, which was misdiagnosed and treated with local therapy resulting in lesion growth and expansion. The lesion was later verified via histopathology and an MRT as a congenital lymphangioma of the foot. The condition could be easily mistaken for viral warts due to the clinical and dermatoscopic similarities. In the case presented, the patient underwent surgical excision, and the wound defect was left for a secondary wound healing. Postoperative complications weren't found, and a successful outcome was achieved proving the surgical excision as the most sufficient type of treatment for such lesions.

REFERENCES

1. Miceli A, Stewart KM. Lymphangioma. In: StatPearls. Treasure Island (FL). 2022.
2. Diani M, Turina M, Cozzi C, et al. Acquired lymphangiomas mimicking multiple hallux warts. *An Bras Dermatol*. 2017;92:11-13.
3. Zhu JW, Lu ZF, Zheng M. Acquired progressive lymphangioma in the inguinal area mimicking giant condyloma acuminatum. *Cutis*. 2014;93:316-319.
4. Verma SB. Lymphangiectasias of the skin: victims of confusing nomenclature. *Clin Exp Dermatol*. 2009;34:566-569.
5. Kurude AA, Phiske MM, Kolekar KK, et al. Lymphangiomas: Rare presentations in oral cavity and scrotum in pediatric age group. *Indian J Dermatol Venereol Leprol*. 2020;86:230.
6. Robinson WE. Case of Lymphangioma of the Foot. *Proc R Soc Med*. 1924;17:8.
7. Horn LC, Kühndel K, Pawlowitsch T, et al. Acquired lymphangioma circumscriptum of the vulva mimicking genital warts. *Eur J Obstet Gynecol Reprod Biol*. 2005;123:118-120.
8. North J, White K, White C, et al. Acquired, verrucous, gluteal lymphangioma in the setting of Crohn's disease. *J Am Acad Dermatol*. 2011;64:e90-91.
9. Hwang LY, Guill CK, Page RN, et al. Acquired progressive lymphangioma. *J Am Acad Dermatol*. 2003;49:S250-251.
10. Vuksić M, Budimčić D, Lončarić D. An unusual case of superficial lymphangioma of the right foot. *Acta Dermatovenerol Croat*. 2007;15:243-245.
11. Heyi GD, Endalew SD, Mulu TS, et al. Surgically Managed Acquired Vulvar Lymphangioma Circumscriptum. *Ethiop J Health Sci*. 2022;32:221-225.

12. White CL, Olivieri B, Restrepo R, et al. Low-Flow Vascular Malformation Pitfalls: From Clinical Examination to Practical Imaging Evaluation--Part 1, Lymphatic Malformation Mimickers. *AJR Am J Roentgenol*. 2016;206:940-951.
13. Brown RL, Azizkhan RG. Pediatric head and neck lesions. *Pediatr Clin North Am*. 1998;45:889-905.
14. Elluru RG, Balakrishnan K, Padua HM. Lymphatic malformations: diagnosis and management. *Semin Pediatr Surg*. 2014;23:178-185.
15. Zhang C, Ma R. Lymphangioma of the foot mimicking melanoma: an uncommon case of a Chinese boy. *J Pediatr Orthop B*. 2015;24:159-161.
16. Poterov G, Cardoso JC, Tchernev G. Acral unilateral congenital lymphangioma. *J Med Review (Bulgarian)*. 2020;56:31-32.
17. Kennedy TL, Whitaker M, Pellitteri P, et al. Cystic hygroma/lymphangioma: a rational approach to management. *Laryngoscope*. 2001;111:1929-1937.
18. Wimmershoff MB, Schreyer AG, Glaessel A, et al. Mixed capillary/lymphatic malformation with coexisting port-wine stain: treatment utilizing 3D MRI and CT-guided sclerotherapy. *Dermatol Surg*. 2000;26:584-587.
19. Guarisco JL. Congenital head and neck masses in infants and children. Part II. *Ear Nose Throat J*. 1991;70:75-82.
20. Fioramonti P, Maruccia M, Ruggieri M, et al. A rare case of lymphangioma in the gluteal region: surgical treatment combined with sclerotherapy and laser therapy. *Aesthetic Plast Surg*. 2013;37:960-964.
21. Júnior FN, da Silva EJ, Paz ALLM, et al. Extensive tongue lymphangioma followed for eight years: Case report. *J Oral Maxillofac Pathol*. 2023;27:S6-S9.
22. Berbel Tornero O, Ferrís i Tortajada J, Donat Colomer J, et al. Neonatal tumors: clinical and therapeutic characteristics. Analysis of 72 patients in La Fe University Children's Hospital in Valencia (Spain). *An Pediatr (Barc)*. 2006;65:108-117.
23. Ogita S, Tsuto T, Nakamura K, et al. OK-432 therapy in 64 patients with lymphangioma. *J Pediatr Surg*. 1994;29:784-785.
24. Laranne J, Keski-Nisula L, Rautio R, et al. OK-432 (Picibanil) therapy for lymphangiomas in children. *Eur Arch Otorhinolaryngol*. 2002;259:274-278.
25. Özcan R, Hakalmaz AE, Emre S, et al. Intralesional bleomycin injection treatment of intra-abdominal lymphangiomas presenting with acute abdomen in children. *Ulus Travma Acil Cerrahi Derg*. 2023;29:499-504.
26. Júnior FN, da Silva EJ, Paz ALLM, et al. Extensive tongue lymphangioma followed for eight years: Case report. *J Oral Maxillofac Pathol*. 2023;27:S6-S9.
27. Farnoosh S, Don D, Koempel J, et al. Efficacy of doxycycline and sodium tetradecyl sulfate sclerotherapy in pediatric head and neck lymphatic malformations. *Int J Pediatr Otorhinolaryngol*. 2015;79:883-887.