GEORGIAN MEDICAL NEWS

ISSN 1512-0112

NO 5 (374) Май 2026

ТБИЛИСИ - NEW YORK

ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии

საქართველოს სამედიცინო სიახლენი

GEORGIAN MEDICAL NEWS

Monthly Georgia-US joint scientific journal published both in electronic and paper formats of the Agency of Medical Information of the Georgian Association of Business Press. Published since 1994. Distributed in NIS, EU and USA.

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.

GEORGIAN MEDICAL NEWS
NO 5 (374) 2026

Содержание:

GEORGIAN MEDICAL NEWS
No 5 (374) 2026

CLINICAL CHARACTERISTICS OF INFECTION-ASSOCIATED PALMOPLANTAR DERMATOSIS IN PREPUBERTAL CHILDREN: AN OBSERVATIONAL STUDY

Khatuna Kudava[1,2].

[1]*European University, Department of Dermatology, Tbilisi, Georgia.*
[2]*"Kanveni" - National Center of Dermatology and Venereology.*

Abstract.

Introduction: Dermatoses that develop in children often differ from similar pathologies in adults. One of the interesting and ongoing subjects of study for pediatric dermatology is pathologies of the skin of the palmoplantar areas. Rashes in the acral area may be part of a widespread rash, or a pathology specifically expressed only in the acral area. Similar problems in pediatric dermatological practice are determined by a wide range of etiological factors.

Aim: The aim of the study was to identify the characteristic clinical features of palmoplantar dermatoses in children in relation to age and different diseases; to determine basic recommendations for a specific pathology.

Material and methods: The observational study includes data processing of 58 patients aged 1-10 years from 2020-2024. The diagnostic components included a complete dermatological history and dermatoscopic, microscopic, and cultural (bacteriological) examinations.

Results: The mean age of the patients was 5.5 years. 27 (46.6%) were female, 31 (53.4%) were male. Patients with palmoplantar dermatoses were clinically evaluated based on the distribution, uniformity and symmetry of the rash.

In 24(41,4%) cases, the rash was a local lesion, in 34(58,6%) it was part of a generalized rash. 34(58, 6%) of children had a symmetrical rash, 24(41,4%) had an asymmetric rash; 39(67,2%) of patients had uniform rash, and 19(32,8%)% had several types.

Based on clinical diagnosis, the following groups were distinguished: scabies 22 (37.9%), impetigo 11 (19%), scabies and impetigo 4 (6.9%), tinea 6 (10.3%),

hand-foot-and-mouth disease 8 (13.8%), and Covid-19-associated 7 (12.1%) palmoplantar dermatoses.

Conclusion: In prepubertal children, the majority of palmoplantar dermatoses associated with infections characterized by a predominantly symmetrical and uniform rash. Treatment recommendations focus on the treatment of the underlying disease. COVID-19-associated palmoplantar dermatoses have a different course, treatment is limited to symptomatic therapy, and the nonspecificity of the manifestations requires further scientific research.

Key words. Children, Palmoplantar dermatoses, COVID-19.

Introduction.

Dermatoses that develop in children often differ from similar pathologies in adults. The localization of dermatoses, along with a specific rash, is a pathognomonic feature of the disease and plays a major role in determining the diagnosis. One of the interesting and ongoing subjects of study for pediatric dermatology is pathologies of the skin of the palmoplantar areas. Rashes in the acral area may be part of a widespread rash, or a pathology specifically expressed only in the acral area. Similar problems in pediatric dermatological practice are determined by a wide range of etiological factors.

The causes of palmoplantar dermatoses in children can be both inflammatory diseases and skin infections. The most relevant pathologies are scabies, tinea manuum and pedum, impetigo, herpes simplex digitalis, verrucae vulgaris, punctate keratolysis, blistering distal dactylitis, hand-foot-mouth disease, COVID-19-associated cutaneous manifestations [1-3]. The characteristic clinical manifestations of palmoplantar rash and the relation with age are also important. According to the conducted study, the most common cause of acral vesicles in general was a dyshidrotic eczema with or without atopic diathesis and scabies. In a detailed age distribution, in children under 4 years of age, the main cause was scabies, while for late childhood dyshidrotic eczema was a major etiological factor [4]. Most acral dermatoses in children occur as isolated cases, although similar pathologies sometimes occur in certain groups of children as a clinical feature of microepidemics. Hand-foot-and-mouth disease, which is common in children and is mainly caused by human entero viruses and coxsackie viruses, may be considered a potential source of epidemics [5,6].

In general, the difficulty of diagnosing childhood dermatoses is often related to specific clinical manifestations and the presence of mixed pathologies. Correct assessment of clinical features, together with a complete dermatological history and necessary examinations, is an important component of effective management of dermatological diseases.

Aim: The aim of the study was to identify the characteristic clinical features of palmoplantar dermatoses in children in relation to age and different diseases; to determine basic recommendations for a specific pathology.

Materials and Methods.

The observational study includes data processing of 58 patients aged 1-10 years from 2020-2024. The diagnostic components included a complete dermatological history and dermatoscopic, microscopic, and cultural (bacteriological) examinations.

Results.

The mean age of the patients was 5.5 years. 27 (46.6%) were female, 31 (53.4%) were male. Patients with palmoplantar dermatoses were clinically evaluated based on the distribution, uniformity and symmetry of the rash.

In 24(41,4%) cases, the rash was a local lesion, in 34(58,6%) it was part of a generalized rash. 34(58, 6%) of children had a symmetrical rash, 24(41,4%) had an asymmetric rash; 39(67,2%) of patients had uniform rash, and 19(32,8%) had several types.

Based on clinical diagnosis, the following groups were distinguished: scabies 22 (37.9%), impetigo 11 (19%), scabies and impetigo 4 (6.9%), tinea 6 (10.3%),

hand-foot-and-mouth disease 8 (13.8%), and Covid-19-associated 7 (12.1%) palmoplantar dermatoses.

In 17(77, 3%) of scabies cases, the palmoplantar rash was presented as part of a generalized rash, 5(22,7%) as a pathology detected only on the palms and soles. In 19 (86,4%) of cases the rash was found to be symmetrical, 3(13,6%) asymmetrical. The rash was observed only on the palms of the hands in 15 (68.2%) cases, and on the palmoplantar areas in 7 (31.8%) cases. In 12(54,5%) of cases, the rash was homogeneously small-nodular, 10(45,5%) small-nodular and vesicular. In all cases, the diagnosis was confirmed by the specificity of the course, clinical manifestations, and itching at night. 14 (63,6%) of the diagnosis was confirmed dermatoscopically. In all cases after local antiparasitic therapy, the patients were completely cured.

In 8(72,7%) of impetigo cases, the palmoplantar rash was part of a disseminated rash, and in only 3(27,3%) cases were localized. 7(63,6%) of the rash was represented by pustules of various sizes, in 4(36,4%) cases it was bullous and pustular. Honey-colored crusting was observed in the majority of patients as a secondary identifying feature of impetigo. All cases of rash were asymmetric and it was only detected on the palms. The pathogen was identified in 6(54,5)% based on cultural (bacteriological) examination. As a result, 2(33,3%) were confirmed to be streptococcus pyogenes,

4(66,7%) Staphylococcus aureus. After local and oral antibiotic therapy, the patients were completely cured.

Four patients had two infections together: scabies and impetigo. In all cases, the asymmetrical palmoplantar rash was part of a generalized skin rash. Clinically, it presented with a small nodular, vesicular, and pustular rash. All patients recovered after local antiparasitic and antibacterial treatment.

Tinea was detected in 3(50%) as a local infection, 3(50%) as part of a generalized rash. 2(33.3%) on the palms and 4(66.7%) on the plantar areas. In all cases, the rash was asymmetrical. 3(50%) had onychomycosis. The rash in all cases was presented as a homogeneous, circular, red patches with scaling on the surface. Laboratory confirmation of all cases was carried out by microscopic examination. In cases of localized lesions, treatment was limited to topical antifungal creams.

Resolution of fungal skin lesions with topical antifungal creams occur for two weeks. In cases of widespread tinea and onychomycosis, perioral antifungal tablets were also used.

Patients with onychomycosis continued oral antifungal treatment.

In all cases of palmoplantar rash associated with COVID-19 the infections were confirmed by based on patient-provided history. Any connection between the rash and other infections or medications was excluded.

Two patients (28,6%) developed a palmoplantar rash associated with COVID-19 on the eighth and ninth days after the onset of infection. Clinically manifested as erythema multiforme-like; the rash was localized on the upper extremities, including the palms, in the form of symmetrically located target lesions of various sizes. Both patients had a mild form of the infection, were treated with symptomatic therapy, prescribed by their family doctor. No specific treatment was used for the rash. In both cases, the rash resolved spontaneously within three weeks of its onset. Five (71,4%) cases of a different skin pathology were identified, which developed in children with mild COVID-19 after the acute phase. Along with the resolution of acute symptoms, on days 3-6 of illness, infected children developed a symmetrical rash on the palms, accompanied by severe itching. The rash appeared as a uniform inflammatory, red erythematous pattern. A short course of oral antihistamine therapy resulted in complete resolution of the rash in all cases.

The palmoplantar rash, which was identified as part of hand, foot, and mouth disease, was detected in 8 cases, in 4 (50%) of which the etiological factor was Coxsackie virus, in 4 (50%) of which the causative agent of enterovirus infection was not identified. According to the anamnesis, in all of them the disease began acutely with high fever and gastrointestinal disorders. On the 3rd-5th day, the patients developed a symmetrical rash on the hands and feet as maculopapular and vesicular rash surrounded by a red haloappeared with oral enanthemas. The patients underwent symptomatic therapy and the rash resolved within 7-9 days (Table 1).

Discussion.

Scabies is a widespread parasitic infection in children caused by Sarcoptes scabiei and is particularly contagious. It often manifests in different forms in children than in adults. Poverty and overcrowding are factors that create a higher risk for transmission and treatment failure. Diagnosis is based on clinical signs and dermatoscopic examination, and treatment is mainly with topical permethrin. Treatment failure is often associated with asymptomatic contacts. Educating patients about their application is very important [7,8]. The specificity of the disease course is often determined by its main symptom - itching. Severe itching at night is often reflected in the deterioration of the patient's quality of life. It also creates a favorable environment for the development of secondary bacterial infection. According to the presented study, the predominant localization of scabies cases was palmoplantar areas with severe itching characteristic of the disease. In most cases, the source of the disease (infected contact person) was identified. Dermatoscopic examination was successfully used to confirm the diagnosis of patients, and local therapy was sufficient in all cases.

A few numbers of cases were complicated by bacterial infection in the form of impetigo.

Impetigo is the most common bacterial infection in children. Most cases of nonbullous impetigo and all cases of bullous impetigo are caused by staphylococcus aureus. The cause

Table 1. *Distribution of clinical forms associated with palmoplantar dermatoses.*

Clinical forms	Distribution
Scabies	22 (37.9%)
Impetigo	11 (19%)
Scabies and impetigo	4 (6.9%)
Tinea	6 (10.3%)
Hand-foot-and-mouth disease	8 (13.8%)
Covid-19-associated palmoplantar dermatoses	7 (12.1%)

of the disease is often skin microtrauma or nasal carriage of staphylococcus aureus. The disease is characterized by a superficial course and local antibiotic therapy is often sufficient [9]. According to the presented study, both staphylococcal and streptococcal infections were found to be the causes of uncomplicated impetigo cases. Antibacterial treatment was found to be sufficient for treatment. The cause of scabies impetigo complication was the infection of microtraumas caused by itching with strepto-staphylococcal infections. In all such cases, initially local antibacterial, then antiparasitic therapy was performed. The particularly frequent complication of scabies with impetigo and their joint manifestation has been confirmed by numerous studies. Both infections belong to particularly widespread skin diseases. Studies confirm the endemicity of scabies and impetigo in many tropical, low- and middle-income countries [10,11].

Dermatophytes are the largest and most common group of fungal infections. Among them, Trichophyton rubrum has become the dominant species, responsible for a wide range of diseases such as tinea corporis, tinea pedis, onychomycosis, tinea cruris, and tinea manuum. Tinea infections present with a variety of clinical symptoms and can affect people of all ages, from tinea pedis in adults to tinea capitis in children [12]. The fungal spectrum is particularly different in tinea corporis and tinea capitis in children and adults, while the spectrum of pathogens is more diverse in children [13]. In all cases of Tinea identified in the presented study, the diagnosis was confirmed by microscopic examination, and treatment was determined taking into account the spread of the infection and the involvement of the nails in the process.

A special and valuable part of the presented study is the presentation of the features of palmoplantar infections associated with COVID-19.

COVID-19 infection caused by the SARS-CoV-2 coronavirus has become a field of special interest for scientists due to its scale and complications. In addition to lesions of various organs, a number of publications have been published on skin involvement. According to researchers, skin manifestations detected during COVID-19 are often an early sign of the disease and are particularly useful for the timely diagnosis of infection [14,15]. Frequently detected skin lesion patterns were also identified. The major dermatological patterns of COVID-19 included inflammatory reactions and lesions of vascular origin: maculopapular/morbilliform, erythema, pernio-like lesions, urticarial and vesicular rashes, chilblain like rashes, petechiae/purpura, livedo acemose-like pattern [15,16]. Coronavirus infections in children often occur differently, characterized by asymptomatic, mild to moderate course, and good prognosis [17,18].

There are also a variety of skin manifestations associated with SARS-CoV-2 infection in children. According to extensive studies, the most widespread cutaneous manifestation of COVID-19 is chilblain-like lesions. Other skin manifestations associated with SARS-CoV-2 infection include erythema multiforme, urticaria, and Kawasaki disease-like inflammatory multisystemic syndrome [19-22].

According to the presented study, two types of palmar skin pathology associated with Covid-19 were identified: erythema multiforme-like rash and palmar erythematous pattern. In all cases, healing occurred only as a result of symptomatic therapy, without specific treatment for the skin.

Many studies have been conducted to study hand, foot, and mouth disease. The main causative agents of the infection are coxsackievirus A4 and enterovirus 71. It is characterized by a wide distribution in children under 10 years of age, often causing microepidemics. The clinical manifestation of the disease includes both a classic presentation and an atypical manifestation in children with atopic dermatitis - "eczema coxsackium" [23,24]. According to the data presented in the study, a typical rash characteristic of the infection was detected in all cases, and treatment was limited to symptomatic therapy.

Conclusion.

In prepubertal children, the majority of palmoplantar dermatoses associated with infections characterized by a predominantly symmetrical and uniform rash. Treatment recommendations focus on the treatment of the underlying disease. COVID-19-associated palmoplantar dermatoses have a different course, treatment is limited to symptomatic therapy, and the nonspecificity of the manifestations requires further scientific research.

REFERENCES

1. Knop M, Alelq N, Kubieniec ME, et al. Palmoplantar dermatoses in children. Hautarzt. 2021;72:215-224.
2. Farajzadeh S, Khalili M, Shakiba Dehghani S, et al. Top 10 acral skin manifestations associated with COVID-19: A scoping review. Dermatol Ther. 2021;34:15157.
3. Khatoon N, Khan A, Azmi M.A, et al. Report - Most common body parts infected with scabies in children and its control. Pak J Pharm Sci. 2016;29:1715-1717.
4. Braun-Falco M, Schnopp C, Abeck D. Palmoplantar vesicular lesions in childhood. Hautarzt. 2003;54:156-9.
5. Saguil A, Kane S.F, Lauters R, et al. Hand-Foot-and-Mouth Disease: Rapid Evidence Review. Am Fam Physician. 2019;100:408-414.
6. Leung A.K.C, Lam J.M, Barankin B, et al. Hand, Foot, and Mouth Disease: A Narrative Review. Recent Adv Inflamm Allergy Drug Discov. 2022;16:77-95.
7. Chiriac A, Diaconeasa A, Miulescu R, et al. Scabies in infants and children - a narrative review. Eur J Pediatr. 2024;183:2527-2536.
8. Karthikeyan K. Scabies in children. Arch Dis Child Educ Pract Ed. 2007;92:65-69.
9. Darmstadt G.L, Lane A.T. Impetigo: an overview. Pediatr Dermatol. 1994;11:293-303.
10. Osti M. H, Sokana O, Phelan S, et al. Prevalence of scabies and impetigo in the Solomon Islands: a school survey. BMC Infect Dis. 2019;19:803.
11. Matthews A, Le B, Salvador Amaral S, et al. Prevalence of scabies and impetigo in school-age children in Timor-Leste. Parasit Vectors. 2021;14:156.
12. Barac A, Stjepanovic M, Krajisnik S, et al. Dermatophytes: Update on Clinical Epidemiology and Treatment. Mycopathologia. 2024;189:101.

13. Kromer C, Celis D, Hipler UC, et al. Dermatophyte infections in children compared to adults in Germany: a retrospective multicenter study in Germany. Dtsch Dermatol Ges. 2021;19:993-1001.
14. Schwartzberg L, Ann Lin A, Joseph Jorizzo J. Cutaneous Manifestations of COVID-19. Cutis. 2021;107:90-94.
15. Martora F, Villani A, Fabbrocini G, et al. COVID-19 and cutaneous manifestations: A review of the published literature. J Cosmet Dermatol. 2023;22:4-10.
16. Seque CA, Enokihara MMSES, Porro AM, et al. Skin manifestations associated with COVID-19. An Bras Dermatol. 2022;97:75-88.
17. Balasubramanian S, Rao NM, Goenka A, et al. Coronavirus Disease 2019 (COVID-19) in Children - What We Know So Far and What We Do Not. Indian Pediatr. 2020;57:435-442.
18. Cui X, Zhao Z, Zhang T et al. A systematic review and meta-analysis of children with coronavirus disease 2019 (COVID-19). J Med Virol. 2021;93:1057-1069.
19. Andina D, A Belloni-Fortina A, C Bodemer C, et al. Skin manifestations of COVID-19 in children: Part 1. Clin Exp Dermatol. 2021;46:444-450.
20. Andina D, Belloni-Fortina A, C Bodemer C, et al. Skin manifestations of COVID-19 in children: Part 2. Clin Exp Dermatol. 2021;46:451-461.
21. Andina D, Belloni-Fortina A, C Bodemer C, et al. Skin manifestations of COVID-19 in children: Part 3. Clin Exp Dermatol. 2021;46:462-472.
22. Sanchez-Flores X, Huynh T, Huang J.T. Covid-19 skin manifestations: an update. Curr Opin Pediatr. 2021;33:380-386.
23. Frydenberg A, Starr M. Hand, foot and mouth disease. Aust Fam Physician. 2003;32:594-595.
24. Nassef C, Ziemer C, Morrell D.S. Hand-foot-and-mouth disease: a new look at a classic viral rash. Curr Opin Pediatr. 2015;27:486-491.