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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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LOSS OF EFFICACY OF ADALIMUMAB IN HIDRADENITIS SUPPURATIVA: FOCUS ON ALTERNATIVES

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Abstract.

The loss of efficacy of adalimumab, one of the most commonly used biologics for the treatment of hidradenitis suppurativa/acne inversa, is not news to the scientific community, and it should be noted that the number of cases not responding to this agent has been progressively increasing in recent years.

We present a 45-year-old patient with hidradenitis suppurativa/ acne inversa (Hurley II-III) with a complaint duration of 3 years who has been on adalimumab 40 mg weekly for 9 months. The lack of improvement in the clinical condition as well as the progression of the disease within the ongoing biologic therapy led to the need for repeated hospitalizations and the additional introduction of intravenous treatment with a regimen of antibiotics (Ertapenem, Metronizadol, Ceftriaxone), zinc, colchicine, and pain relievers.

During these hospitalizations, a partial improvement was found, which was not durable and required the parallel administration of antibiotics, colchicine and zinc in combination with adalimumab in an outpatient regimen.

Several attempts at surgical treatment/incision in non-specialized units were also made, and these too remained generally unsuccessful or with a nondurable, unsatisfactory clinical outcome.

Due to the subsequent consecutive worsening of the symptomatology, the patient was admitted for evaluation of the clinical condition and optimization of treatment. Surgical treatment was performed by surgical deroofing under general anaesthesia, concurrent with discontinuation of adalimumab/ antibiotic application and long-term remission was achieved.

Surgical deroofing has also been shown to be an effective therapeutic option in the loss/lack of efficacy of adalimumab in patients with hidradenitis suppurativa (Hurley II-III).

In the case of therapeutic resistance or worsening of symptomatology in patients with acne inversa within adalimumab therapy, other advanced alternatives such as golimumab, anakinra , etanercept are available.

The efficacy of these second-line agents is also questionable due to the development of resistance to them as well, which in turn necessitates the frequent switch to third-line agents such as : Ustekinumab, Tildarkizumab, Certolizumab or Ixekizumab. The future will show to what extent this ″trust″ could be justified and whether in practice the surgical approach will once again displace the so-called ″modern options″ as the reasonable next basic and reliable alternative.

The disadvantage of modern biological therapy is mainly due to the loss of efficacy/development of resistance over time, multiple side effects and frequent recurrence after discontinuation of treatment. In contrast, in the case of specific, stage-oriented, specialized surgical treatment of hidradenitis suppurativa/ acne inversa, in the form of surgical deroofing, for example, the results are long-lasting and in the case of recurrences: the latter are much more easily managed by dermatosurgery/surgery again. The effect achieved after this type of manipulation is essential for the patients' quality of life and guarantees to a large extent also prevention of the development of keratinocyte tumours in the areas affected by chronic inflammation. Precisely because of the aforementioned facts, in a serious number of patients this type of treatment could be considered as a priority. The rethinking of the guideline and the staging of surgical modalities as first-line therapy could, in a serious number of patients, have a positive effect. Swap for surgery seems to be a good alternative.

Key words. Adalimumab, surgical deroofing, acne inversa, hidradenitis suppurativa , Hurley II-III, undermining surgery.

Introduction.

Although, until recently, suppurative hidradenitis (as a clinical mono manifestation or in combination with pyoderma gangrenosum) has been successfully treated with adalimumab [1], there is now an avalanche of evidence that points to a loss of efficacy of the drug. This, in turn, necessitates a change in the therapeutic regimen and a switch to other biologics such as 1) Ixekizumab [2], 2) brodalumab [3], and a number of others. Unfortunately, a number of these are not available as basic therapy or even as alternatives in certain geographic latitudes.

On the other hand, the side effects of adalimumab are also not infrequently a reason to stop the medication in question, as it could (in certain cases) seriously endanger the health of patients [4].

Severe forms of hidradenitis suppurativa are no exception in this respect- when adalimumab medication is stopped for a short time, a progression to more severe forms such as Hurley II-III has been observed, which cannot be managed either medically or surgically [5]. This necessitates a rethinking of the therapeutic strategy and a search for new alternatives.

We present a 45-year-old patient , who has been on adalimumab therapy for 9 months, with a lack of efficacy of the biologic and disease progression during this therapy. This prompted his repeated hospitalization, during which he also required the introduction of concurrent antibiotic therapy with metronidazole and ertapenem regimen (in combination with colchicine), again the improvement was short-lived and unsatisfactory.

The patient was referred for surgical treatment , and after surgical deroofing a durable remission was achieved, and adalimumab therapy was permanently discontinued.

Case report.

A 45-year-old male came to the dermatology department with primary complaints of painful, erythematous, secreting nodules, cicatrixes and fistulas with exudation located in both axillary

and inguinal regions. Complaints began 3 years ago with the spontaneous appearance of painful, erythematous nodules in the axillary folds, later appearing in the inguinal folds too. Pain, febrility up to 38.4 and general debility.

The patient had four previous hospitalizations for hidradenitis suppurativa.

Multiple surgical incisions and the subsequent elimination of pus were performed in the past in the coccyx and axillae areas with a temporary effect.

The last surgical intervention in the form of incision was in January 2022 during his third hospitalization for the lesions located in the axillary regions, the effect is again short-lived and requires temporary hospitalization.

Systemic therapy during the years with the following medications were carried out-different antibiotic courses with:

1) Within one of the hospitalizations: Ertapenem 1g daily intravenously in combination with Ceftriaxone 2 g daily intravenously and metronidazole 500 mg twice daily; colchicum disp 0.5 mg twice daily, ketotifen 1 mg twice daily, zinc gluconate 30 мг two tablets three times a day for 10 days. Local treatment was carried out with wound gels twice daily: iodinated povidone 10% solution , resorcinol 15 % cream, chlorhexidine gluconate 4%.

In the outpatient setting, antibiotic treatment was continued with metronidazole 250 mg according to the following regimen : 2 times 2 tablets for one week, followed by 3 times 1 tablet (for one week), and the dose was subsequently changed to 2 times 1 tablet for 2 weeks, followed by 1 tablet for 3 months. Colchicine was continued on an outpatient basis according to the following schedule: twice daily at 0.5 mg for one month , with subsequent dose reduction to once daily. Ketotifen 1mg twice daily, fluconazole 50mg once daily for 1-2 months, silymarin 90mg - 2 times one per day, Zn gluconate 15mg / 3 times daily two tablets.

In parallel with this the patient was put on adalimumab for 9 months during his last hospitalization in 2023, with applications every week with 1 amp 40 mg administrated subcutaneously.

Lack of therapeutic effect of adalimumab administration. Partial improvement of the condition after concomitant administration of combined antibiotic therapy under inpatient conditions, which resolves relatively quickly with antibiotic dose reduction in the outpatient setting.

2) Within another hospitalization, systemic antibiotic therapy included the following regimen : Ceftriaxone 2g daily i.v. in combination with Metronidazole 500 mg twice daily intravenously ; Zinc gluconate 15 mg 3 times daily per os; Fluconzole 50 mg once daily, Silymarin 90 mg - 2 times one per day.

Outpatient therapy was continued again in combination with adalimumab on a schedule / 40 mg weekly / and did not lead to significant improvement: doxycycline 100 mg once daily for a month in combination with colchicine 0.5 mg and one tablet for a month, Silymarin 90 mg twice daily for a month, and zinc gluconate 15 mg : 3 times two tablets for a month.

The patient also had arterial hypertension for which he takes candesartan cilexetíl/amlodipine 16/5 mg once in the morning. No family history for dermatoses was reported. He reports drinking alcohol and smoking cigarettes.

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

Routine blood tests were performed, resulting without abnormalities.

The dermatological examination showed symmetric exanthema in the axillary folds; erythematous, inflammatory, and secreting nodules, aggregating into plaques, fistulas and postoperative cicatrixes in the axillary and inguinal areas (Figures 1 and 2). The patient's hidradenitis suppurativa was staged as severe - Hurley 3, IHS4 score > 11.

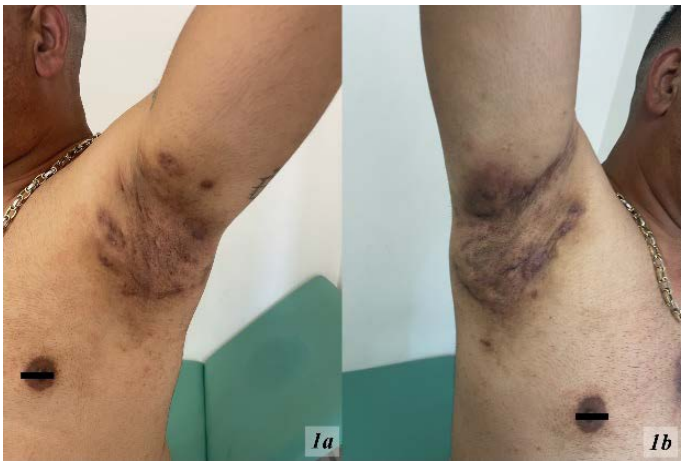

Figure 1. 1a: *Left axilla , affected by deep, painful, subcutaneously localized nodules in a patient with hidradenitis suppurativa.*
1b: *Right axilla of a patient with hidradenitis suppurativa and deep tissue induration.*

Figure 2. 2a,2b: *Inguinal and suprapubic findings in a patient with hidradenitis suppurativa.*
2c: *Perianal involvement in a patient with hidradenitis suppurativa / acne inversa.*

Several surgical excisions were planned to remove the lesional sites located in the inguinal and axillary regions.

Significant improvement of the clinical picture was achieved, as 4 months after the operation the secretion from the affected areas was reduced by about 75-80%, clinically there were several single nodules with a slightly raised surface and significant less soreness to touch. General debility and febrile states are absent. A second surgical session is planned for definitive surgical repair of the suppurative nodules.

Discussion.

The lack or loss of effectiveness of biologics in patients with hidradenitis suppurativa is not new and dates back more than a decade [6]. In addition to adalimumab, ineffectiveness/loss of

efficacy or therapeutic resistance has also been observed after the administration of golimumab, anakinra and etanercept [6,7].

However, the lack or loss of efficacy of adalimumab is proving to be more than problematic, as a kind of credibility is being lost in the main biologic officially approved for the treatment of hidradenitis suppurativa/acne inversa, whose clinical efficacy was until recently estimated to be as high as 86.7% [8,9].

It is currently unclear whether switching to golimumab [10-12] or Ixekizumab [2] will remain as a durable alternative and adalimumab will be completely replaced.

Another problem besides the lack or loss of effectiveness of adalimumab is the occurrence of paradoxical reactions that lead to: 1) the co-occurrence of plaque psoriasis and palmoplantar pustulosis/ within the treatment of HS [13], 2) the manifestation of psoriasiform eruptions on the skin/ within the treatment of HS [14], 3) psoriasiform reactions in combination with sacroiliitis/ within the treatment of HS with adalimumab [15], 4) occurrence of hidradenitis suppurativa/ within the treatment of Crohn's disease with adalimumab [16]. Side effects of the medication appear to be somewhat unpredictable.

The future will tell whether confidence in both Tildarkizumab and Certolizumab will remain justified, although initial data on their efficacy in a limited number of patients with acne inversa are encouraging [17,18]. Similar data are available for the administration of ustekinumab [19].

Characteristic of the profile for shared advanced therapeutic options remain the following negatives 1) loss of efficacy of the drug within the ongoing treatment; 2) severe side effects that could accompany this treatment; 3) frequent worsening of clinical symptomatology after discontinuation of their administration; 4) neutropenia, infections, local reactions, systemic reactions.

Similar should be the characteristics of long-term antibiotics and retinoids: immunity decline, development of resistance, hepatic and renal toxicity, ineffectiveness at the start of therapy.

This is what necessitates a rethinking of the therapeutic strategy , namely: staging of certain surgical techniques to lead to long-term or lasting improvement of symptoms. Or to reduce the clinical symptomatology and lead to better susceptibility to biologics and systemic antibiotics. IIn practice, an exacerbation of this disease after correctly performed surgical treatment is extremely rare.

Surgical deroofing and elliptical excisions are a good opportunity to test this strategy in patients with Hurley I-III , and they often result in durable or long-term remissions [20,21]. Performing rotational and transpositional flaps under general anesthesia has also been shown to have long-lasting or permanent effects [22]. Subsequent close monitoring of these patients in the postoperative period is also crucial for prognosis.

Multiple incisions of inflammatory nodules in combination with systemic antibiotics performed in patients often do not have the expected therapeutic effect , similar to the patient we have shown in our publication. Specialized surgical approach such as deroofing, seems to be a wonderful option.

Nevertheless, the evidence in world literature that loss of efficacy of adalimumab has been described in patients with Crohn's disease [23] as well as in those with rheumatoid arthritis [24] should not be ignored.

Strategies in the absence of such efficacy are generally always twofold: either switching to a drug in the same group (switch to another TNF alpha block) or switching to one with a radically different mechanism of action (swap/ for another mechanism of action) [25].

However, both of these options: 1) do not insure patients against recurrent loss of efficacy/development of resistance, 2) often have serious side effects, and 3) after stopping them - a recurrence of symptomatology occurs, and this clinical picture could be often more difficult to manage than the initial one and requires in a high percentage of cases hospitalization of patients.

According to recent evidence, even switching to so-called biosimilars is no guarantee of success and the loss of efficacy could be even more pronounced than with adalimumab, for example [26].

Therapeutic resistance to biologics in general could probably be at least temporarily overcome/avoided precisely by switching to a new form of basic or first-line treatment: surgical treatment in the form of surgical elliptical excisions, specific surgical deroofing, or more severe rotational/transpositional flaps tailored to the clinical findings and localization of the suppurative nodules and fistulas. Changing this algorithm in single patients (in favour of dermatologic surgery/ surgery as first-line therapy followed by systemic antibiotic therapy, for example) is indicative that in a serious number of patients, systemic adalimumab administration is not necessary or could be minimized.

Conducting several consecutive (surgical) interventions during well-defined periods and in the framework of interdisciplinary collaboration between dermatologists and surgeons is essential to achieve optimal results that spare patients the long and prolonged treatment with biologics and systemic antibiotics that gradually lose their effectiveness as the disease progresses (so-called tachyphylaxis).

The new, strictly structured withdrawal of the disease activity by changing the initial approach and initiating the first line treatment by dermatosurgical/surgical one means could subsequently provide the opportunity for a subsequent significantly better therapeutic response in general, but also better susceptibility and disease control to the milder non-invasive options.

This, in turn, and in general, should have a sparing effect on patients' organism in the long perspective.

Changing the therapeutic algorithm as a move and in favour of invasive therapeutic options in these patients could in all likelihood prove decisive and profitable in the long course.

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