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News



# Chronicles of A.I. Pospelov Moscow Society of Dermatovenerologists and Cosmetologists (MSDC was founded on October 4, 1891)

## Bulletin of the MSDC № 1158

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### ABSTRACT

On May 17<sup>th</sup> we held our last meeting of Moscow Society of Dermatologists and Cosmetologists named after A.I. Pospelov in person within XLI Rachmanov Readings conference. There were 61 participants.

Our agenda included two clinical cases: the first one was dedicated to the PASH-syndrome as the most common manifestation of gangrenous pyoderma syndromic form; the second one was about diagnostic difficulties in mycosis fungoides. The first report was accompanied by the presentation of clinical cases of PASH syndrome (gangrenous pyoderma, Hoffmann's folliculitis, suppurative hidradenitis) in a patient aged 19 years and gangrenous pyoderma combined with suppurative hidradenitis and conglobate acne in a patient aged 32 years. The main treatment was the administration of methylprednisolone in combination with antibiotics and the addition of a cytostatic in the second clinical observation.

Two reports were presented in the scientific part of the meeting. In the first report (on the experience of using bacteriorhodopsin in patients with psoriasis vulgaris), the author demonstrated the results of his own prospective study of bacteriorhodopsin cream, noting that the fastest effect occurred on open skin areas. A special emphasis of the second report (on tattoos in the practice of a dermatologist (Fomin Clinic) was made on the absence of a list of contraindications, mandatory certification of dyes for tattooing and tattoo master's workplace, standard of preliminary laboratory tests, as well as uniform requirements for specialists performing tattooing, which determines the frequency of infectious complications after the procedure.

**Keywords:** MSDC; chronicle; history.

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Новости

## Хроника Московского общества дерматовенерологов и косметологов имени А.И. Пospelова (МОДВ основано 4 октября 1891 г.)

Бюллетень заседания МОДВ № 1158

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### АННОТАЦИЯ

17 мая 2024 года состоялось 1158-е заседание Московского общества дерматовенерологов и косметологов имени А.И. Пospelова.

Заседание прошло в очном формате в рамках XLI Научно-практической конференции с международным участием «Рахмановские чтения». В заседании принял участие 61 человек. На вступление в члены МОДВ заявки не подавались. В клинической части заседания представлены два сообщения: PASH-синдром как наиболее частое проявление синдромальной формы гангренозной пиодермии и серия клинических случаев о трудностях диагностики грибовидного микоза. Первый доклад сопровождался представлением клинических случаев PASH-синдрома (гангренозная пиодермия, фолликулит Гоффмана, гнойный гидраденит) у пациента в возрасте 19 лет и гангренозной пиодермии в сочетании с гнойным гидраденитом и конглобатным акне у пациента в возрасте 32 лет. Основным лечением было назначение метилпреднизолона в сочетании с антибиотиками и добавлением цитостатика во втором клиническом наблюдении.

В научной части заседания также было представлено два доклада. В первом докладе (об опыте применения бактериородопсина у больных вульгарным псориазом) автор продемонстрировал результаты собственного проспективного исследования крема с бактериородопсином, отметив, что наиболее быстрый эффект имел место на открытых участках кожи. Особый акцент второго доклада (о татуировках в практике дерматолога) был сделан на отсутствии перечня противопоказаний, обязательной сертификации красителей для татуажа и рабочего места тату-мастера, стандарта предварительных лабораторных исследований, а также единых требований к специалистам, выполняющим татуаж, что обуславливает частоту инфекционных осложнений после процедуры.

**Ключевые слова:** МОДВ; хроника; история.

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## EDITORIAL NOTE

On May 17, 2024, the 1158th regular meeting of the A.I. Pospelov Moscow Society of Dermatovenereologists and Cosmetologists (MSDC) was held.

No applications were submitted for membership in the MSDC. The meeting was attended by 61 participants.

The Presidium of the Conference included the following individuals: Professor O.Yu. Olisova, a Corresponding Member of the Russian Academy of Sciences; Professor E.S. Snarskaya; and A.B. Yakovlev, Cand. Sci. (Medicine), an Associate Professor of the Department of Dermatovenereology and Cosmetology at the Federal State Budgetary Institution for Continuing Education Central State Medical Academy of the Administrative Directorate of the President of the Russian Federation.

During the clinical session of the meeting, two reports were presented: the first report detailed PASH syndrome as the most common manifestation of the syndromic form of pyoderma gangrenosum (PG), and the second report presented a series of clinical cases on the challenges in diagnosing mycosis fungoides (MF).

The scientific session of the meeting included two reports: one on the use of bacteriorhodopsin in patients with psoriasis vulgaris (PV) and the other on tattoos in a dermatologist's practice (Fomin Clinic).

## PASH SYNDROME AS THE MOST COMMON MANIFESTATION OF THE SYNDROMIC FORM OF PYODERMA GANGRENOSUM

In the clinical session of the meeting, the first report was presented by the staff of the Clinic for Skin and Venereal Diseases named after V.A. Rakhmanov (University Clinical Hospital No. 2, Clinical Center, Sechenov First Moscow State Medical University): E.I. Zhgelskaya (speaker), Associate Professor O.V. Grabovskaya, and Professor N.P. Teplyuk.

PG is an autoinflammatory neutrophilic dermatosis that manifests as the formation of painful ulcerative purplish-blue skin defects with roller-shaped undermined edges and an erythematous area around the focus. In addition, the affected skin exhibits increased expression of cytokines and chemokines. The disease was first described by French dermatologist Anne-Jean Louis Brocq (1908) as "phagédénisme géométrique."

PG as the primary inflammatory process is often accompanied by hidradenitis suppurativa (HS), acne (both of which are associated with follicular occlusion syndrome), musculoskeletal diseases (e.g., arthritis, synovitis, osteitis, and hyperostosis), inflammatory bowel diseases (e.g., Crohn disease, nonspecific ulcerative colitis), inflammatory eye

diseases (e.g., uveitis, episcleritis), and Andrews pustular bacterid. Crohn disease, nonspecific ulcerative colitis, and uveitis, individually or collectively, are classified as autoinflammatory processes, and PG is associated with these processes in a variety of stable combinations (syndromes).

Dysregulation of the innate immune system in PG mainly affects phagocytosis, antibody opsonin synthesis, and neutrophil function. These disorders are based on point genetic mutations.

The pathological characteristics of any autoinflammatory disease are recurrent sterile inflammation (sterile pustules on the skin), the absence of autoimmune reaction and autoantibodies, and dysregulation of the innate immune system. The overproduction of the pro-inflammatory cytokine interleukin (IL) 1 $\beta$  (and subsequent activation of TNF- $\alpha$  и IFN- $\gamma$  on the one hand, and the direct effect of IL-17 on the other hand, result in excessive recruitment of neutrophils to the inflammatory area. The lysis of affected tissues is facilitated by the action of neutrophil enzymes, such as cathepsin G, elastase, and proteinase 3. IL-36, present within the inflammatory area, contributes to the excessive recruitment of neutrophils.

The affected skin in both PG and PASH syndrome shows a persistent inflammatory profile with elevated levels of IL-1 $\beta$ , IL-17, TNF- $\alpha$ , IL-8, CXC chemokine ligand (CXCL) 1/2/3, and CXCL16.



Report by E.I. Zhgelskaya, clinical resident of the V.A. Rakhmanov Department of Skin and Venereal Diseases (Sechenov University).

The primary diagnostic criterion for PG is cutaneous, namely the detection of a neutrophilic infiltrate during a pathomorphologic examination of the ulcer margin. Additional criteria include the absence of infection (with neutrophilic infiltrate), the presence of pathergy, inflammatory bowel disease, or arthritis. New ulcers emerge four days after the primary focus of PG, especially on the anterior surface of the tibia. These new ulcers are surrounded by inflammatory erythema and atrophic scars in place of regressed ulcers.

With the start of immunosuppressive therapy, a rapid decrease in the main focus of PG is observed. In addition to immunosuppressive drugs, antibacterial and detoxification therapy, adequate local therapy, and skin plasty after elimination of the process are prescribed.

The clinical case of a 19-year-old patient with PASH syndrome (PG, Hoffmann folliculitis, and HS) was presented. The main treatment was methylprednisolone 5 tablets daily (20 mg) in combination with antibiotics.

Another patient (aged 32 years) had a combination of PG and HS with acne conglobata. There were extensive ulcerated lesions on the skin of the trunk and shins. In this case, methylprednisolone was administered in a daily dose of 6 tablets (24 mg) in combination with an antibiotic (Amoksiklav) and a cytostatic (azathioprine). The cutaneous process was stopped.

## DIFFICULTIES IN THE DIAGNOSIS OF MYCOSIS FUNGOIDES: A CASE SERIES

The second report, which was presented by the head of the Clinic for Skin and Venereal Diseases named after V.A. Rakhmanov, Corresponding Member of the Russian Academy of Sciences, Professor O.Yu. Olsiva (with E.R. Dunayeva acting as the speaker), sought to illustrate the difficulties in diagnosing MF.

MF is a primary epidermotropic T-cell lymphoma of the skin characterized by proliferation of small and medium-sized T lymphocytes with cerebriform nuclei. It accounts for 1% of all non-Hodgkin's lymphomas.

The STAT (signal transducers and activators of transcription) signaling system and Janus kinases 1, 2, and 3 are identified as factors contributing to the uncontrolled proliferation of lymphoid cells. The STAT system may facilitate the function of micro ribonucleic acid (microRNAs) as either oncogenes (onco-mRNA) in cases of overexpression or as tumor suppressor genes (tumor suppressor microRNAs).

The classical form of Alibert-Bazin mycosis is generally subdivided into the following variants: folliculotropic (the most prevalent), pagetoid reticulosis, and cutis laxa. Moreover, at least 15 atypical forms of MF have been documented, including follicular, erythrodermic, poikilodermic, and ichthyosiform presentations, among others.



Report by E.R. Dunaeva, dermatovenerologist, assistant of the V.A. Rakhmanov Department of Skin and Venereal Diseases (Sechenov University).

The clinical pattern of the classical form is characterized by multiple rashes affecting different parts of the body, of variable shape, size and color, sometimes with poikiloderma phenomena, with localization on closed parts of the body. Generally, the rashes are accompanied by pruritus, the intensity of which directly correlates with the malignancy of the process. The phenomenon of simultaneous progression and regression of individual rashes is characteristic.

The differential diagnosis of MF should include plaque parapsoriasis, nummular eczema, contact dermatitis, giant lichenification, atopic dermatitis, pseudolymphoma, Darier erythema annulare centrifugum, toxiderma, and mycosis.

The authors presented patients aged 62 and 69 years with infiltrative and plaque stages of MF. In the early stages of the disease, the patients were diagnosed with parapsoriasis, mycosis, Lyme disease, and atopic dermatitis.

The mean time to diagnosis is approximately five years, even in patients with the classic form of MF, and can be significantly prolonged in other variants of the disease. The probability of diagnosis at late stages (IIB–IV) is 90%, and at early stages (I–IIA) it is 50%.

Histologic examination reveals a pronounced epidermotropism of the pathologic process, and immunohistochemistry reveals the classic CD5/CD7 <CD3> CD2 cell pool ratio.



## USE OF BACTERIORHODOPSIN IN PATIENTS WITH PSORIASIS VULGARIS

The initial presentation in the scientific session of the meeting, which focused on the external application of a bacteriorhodopsin-containing cream for patients diagnosed with PV, was delivered by I.S. Maksimov, a researcher affiliated with the Clinic for Skin and Venereal Diseases named after V.A. Rakhmanov.

PV is a chronic, multifactorial, immune-mediated inflammatory disease with a genetic predisposition. It is manifested by rashes in the form of characteristic papules and plaques with silvery scales on the surface. The pathological epidermal proliferation that underlies this phenomenon is the pathomorphological substrate.

The prevalence of psoriasis in the adult population varies from 1% to 8%.

The significance of this problem is amplified by its psychosocial implications.

The treatment of psoriasis presents significant challenges, with 60% of patients in Russia receiving only topical treatment, 30% receiving combination therapy, and 2% receiving biological drugs. The external application of topical glucocorticoids, topical calcineurin inhibitors, combined keratolytics, vitamin D3 preparations, tar, and naphthalene is a common practice. Retinoids of three generations have demonstrated high efficacy in pustular and exudative forms of psoriasis: retinol, tretinoin, and retinal (first generation); etretinate and acitretin (second generation); tazarotene, bexarotene, and adapalene (third generation). The physiological effects of these drugs are based on their interaction with retinoic acid receptors (RAR) and retinoid-X receptors, which normalizes keratinocyte apoptosis.

Bacteriorhodopsin, a light-sensitive protein isolated from the membrane of *Halobacterium salinarum*. The bacteriorhodopsin molecule contains the active form of vitamin A. The physiological function of bacteriorhodopsin is equal to that of other forms of vitamin A. The protein activates three members of nuclear receptors (RAR- $\alpha$ , RAR- $\beta$ , RAR- $\gamma$ ), which modify gene expression, leading to the normalization of protein synthesis and the differentiation of keratinocytes. In the presence of light, bacteriorhodopsin facilitates the synthesis of adenosine triphosphate.

Bacteriorhodopsin cream is used in day and night versions. During the first week, it is applied to the affected areas twice a day, early morning and evening (night cream), and then twice a day for three more days (day and night cream).

The author conducted a prospective study on the efficacy of bacteriorhodopsin cream in 30 patients diagnosed with PV. The cream was not used in cases of active disease progression or in combination with topical glucocorticoids. The results exceeded all expectations: after four weeks of



Report by I.S. Maximov, assistant of the V.A. Rakhmanov Department of Skin and Venereal Diseases (Sechenov University).

use, the skin cleared by 50% in nine patients, by 75% in eight patients, by 90% in five patients and by 100% in four patients, achieving a psoriasis area and severity index (PASI) of 100. The faster effect occurred on exposed skin areas.

## TATTOOS IN A DERMATOLOGIST'S PRACTICE

The report on tattoos in a dermatologist's practice was presented by dermatovenerologist and cosmetologist N.Yu. Petrushova (Fomin Clinic, Tver).

The term "tattoo" is derived from the French term *tatouer*, which in turn is derived from the Polynesian term *tatau*, that is, drawing on the skin (other synonyms are pigmentation or camouflaging). Tattooing is the process of permanent drawing on the skin of the torso and limbs by puncturing with special needles and introduction of coloring pigment into the dermal layer of the skin.

According to an excerpt from Order of the Ministry of Health of Russia No. 804n "On Approval of the Nomenclature of Medical Services" dated October 13, 2017, dermapigmentation (permanent tattooing) is classified as a medical service (code A17.3 0.001). This medical intervention is considered invasive due to its association with the penetration of the body's natural external barriers (in this case, the skin). It is employed for the cosmetic correction of tissue disorders and defects by injecting coloring substances (pigments) into the

dermis, a skin layer. In Russia, individuals in the 30–49 age group, predominantly women, exhibit a higher prevalence of tattoos compared to other age groups.

A normal inflammatory reaction after tattooing is considered to be a reaction to the extensive mechanical trauma resulting from the hundreds or thousands of punctures made during tattooing. Pain, swelling, erythema, and induration in the tattoo area are common. Histological examination reveals the destruction of the basal epidermal membrane, and in certain cases, there is also evidence of epidermal or dermal necrosis in the area of the tattooed skin. During the initial two hours, an aseptic acute inflammatory reaction manifests, accompanied by the presence of an exudate of polymorphonuclear leukocytes. By the end of the first day, an accumulation of pigment is observed within the cytoplasmic phagosomes of keratinocytes, macrophages, mast cells, and fibroblasts. The healing of a tattoo is typically completed within two to three weeks.

The paints contain iron III oxide ( $\text{Fe}_2\text{O}_3$ ), campesino pigment, cadmium, mercury sulfide, ochre, turmeric, ammonium sulfoxide, manganese, white lead carbonate, titanium dioxide, barium sulfate, zinc dioxide, and paraphenylenediamine.

The acute reaction that ensues in the hours and days following the procedure is associated with mechanical trauma, which manifests most often as pyoderma or skin mycosis. However, anaphylactic shock is observed in 2% of cases in relation to the injected paint. Delayed complications, manifesting after several months, are associated with an autosensitization reaction to the paint, which includes sarcoidosis, lichen planus, allergic dermatitis, urticaria, photosensitization, foreign-body granulomas, and annular granuloma. Due to the invasiveness of the procedure, there is a potential for infection with hepatitis B, C, D or HIV.

Sarcoidosis may affect not only the skin but also the lungs and mediastinal lymph nodes. Lymphomas, pigmented nevi, melanomas, keratoacanthomas, basalionomas, and dermatofibrosarcomas have been described.

Despite the invasive nature of tattooing, there is currently no comprehensive list of contraindications, mandatory certification of dyes for tattooing, or a master's workplace certification. Furthermore, there is a lack of standardization in preliminary laboratory tests prior to this invasive procedure, such as an allergic test for the injected dye and bacteriological skin culture in the proposed area for tattooing. Additionally, there is a need for uniform requirements for specialists performing tattooing, including at least medical education and certification upon successful completion of the initial accreditation of the specialty of tattooing.

Bacitracin/neomycin ointment may be applied to the tattoo contour two times a day for seven days following tattooing to prevent infectious complications. Bacitracin, 5% to 8%, potentiates wound regeneration.

In case of recurrent herpes, anti-herpetic medications should be prescribed (tattooing should be avoided during the acute phase of the disease). The treatment strategy should consist of episodic suppressive therapy, which involves valacyclovir 500 mg twice daily for ten days or famciclovir 250 mg thrice daily for seven days. It is imperative to exclude hot food, alcohol (particularly in cases of permanent lip tattoo), and decorative cosmetics for two weeks. Additionally, it is advisable to refrain from visiting the swimming pool, solarium, or sauna for two weeks. Medical products with dexpanthenol may be used as a healing agent. The entire tattoo area should be protected from direct sunlight, and creams with a sun protection factor (SPF) of 30–50 are strongly recommended. Tattoos should be applied on skin free of moles.