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DIAGNOSTIC CRITERIA AND CLINICAL COURSE OF ATOPIC DERMATITIS IN ADULTS

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Abstract. Objective: to analyze Atopic dermatitis (AD) diagnostics criteria routinely used for diagnosis as well as common findings and history in adult patients with different age of onset of the disease.

Materials and methods. 123 adult patients aged between 18 and 58 years with AD relapse were examined. The diagnosis was confirmed according to Ukrainian guidelines on AD. The patients were randomized in 2 groups depending on AD age of onset: 67 patients had AD start in early childhood and puberty, 56 patients – in adulthood. Precise medical history of the patients, clinical symptoms were collected. The disease severity was evaluated with SCORAD index and itch severity scale. Results were analyzed using parametric and nonparametric statistical tools.

Results. Depending on age of AD onset patients demonstrated some differences in diagnostic criteria positivity, past and actual clinical features of the disease, cooperation with health system specialists. Among major AD diagnostic criteria personal or family history of atopy and flexural lichenification in adults were detected as variable signs of the disease depending on age of onset. Family history of atopy stayed hidden information for part of the patients and could not be verified. The most often minor criteria detected positive and used for AD diagnosis in adults were xerosis, itching when sweating, facial pallor or erythema and white dermographism, with their different frequency among groups. 17,9% of cases in childhood and 25% of cases in adults were not initially recognized as AD and managed as another skin disease for months or years. Skin itch as constant sign of AD is provoked by different triggered with high prevalence of emotional stress in adult-onset AD and different frequency of contact triggers among groups. Emotional trauma was considered by the patients as a major trigger of mild relapses in adult-age AD and moderate relapses in early-age AD. Constant and severe xerosis was more common for patients with AD onset in childhood and was mostly not a significant impacting issue for adult-aged AD. Secondary pyoderma accompanies AD relapses of both groups. 100% of examined patients had experience of self-treatment with topical and systemic medications. Physical modalities of treatment (sunbathing, change of climate etc.) are less often of adult-age AD patients' choice and provide good results more for early onset AD patients. Steroid-phobia was observed in patients with early disease onset only and is not an issue for adult-age AD patients.

Conclusions. Diagnostic criteria stay an important tool for diagnosing AD. Adult patients may demonstrate different set of positive major and minor criteria depending on time of the disease onset. Established diagnosis of AD may not correspond to first manifestation of the disease that is possible both in childhood and adult patients.

Prognosing of AD course in adults may depend on general duration of the disease: starting in childhood AD more often has seasonal relation, constant xerosis, irritation by sweeting; patients have long experience of moisturizers and physical treatments use. If started in adulty AD more often aggravates due to emotional and occupational triggers, then others; long-term use of moisturizers more probably would be neglected by the patient.

Keywords: atopic dermatitis, disease onset, criteria.

Introduction. Recent decades are associated with constant increase of allergic diseases morbidity [1] including allergic skin problems in the world [2]. Atopic dermatitis (AD) stays to be the most evident example of allergic problem of increasing morbidity [3] that significantly impact routine lifestyle, educational process, and ability to work and rest both in children and adults. [4]. The disease modifies social relations, psychological status especially in adults [5]. AD onset may take place in early childhood, puberty or in adulthood due to different backgrounds of the disease. This impacts the clinical manifestation that vary from patient to patient. Different age of AD onset also influences personal patient's experience of "living with a disease" in a different way. Thus, dealing with adult AD patients with different duration of the disease, we should expect differences in making diagnosis and effectiveness of our treatment recommendations.

Background of the research. AD which is synonymous with atopic eczema shows variable clinical features. The disease often is a difficult condition to define robustly because it lacks specific diagnostic tests. Probably due to that AD is generally described as an itchy, chronic, or chronically relapsing inflammatory skin condition that often starts in early childhood (usually before 2 years of age) [6]. Hanifin and Rajka's AD diagnostic criteria [7] stay to be the main tool to make the diagnosis but we may observe that the criteria are mainly modified by national health institutions to meet the current understanding of the disease [8]. Diagnosed in different health system environment using local approaches AD shows different morbidity in countries both in children and adults [9], that

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may be explained with many reasons. Different AD symptoms at examination of patients of different age is one of them. Using national guideline for diagnosis of AD [10] and dealing with some national lifestyle pattern we also meet some differences in AD diagnosis and management of patients.

Objective: to analyze AD diagnostics criteria routinely used for diagnosis as well as common findings and history in adult patients with different age of onset of the disease.

Materials and methods. 123 adult patients with AD relapse were examined. The diagnosis was confirmed according to Ukrainian guidelines [10]. The patients randomized in 2 groups depending on age of AD onset: 67 had AD symptoms start in early childhood and puberty, 56 – in adulthood. Erythroderma or steroid-dependent cases were excluded. At first examination for current AD relapse precise medical history of the patients and clinical symptoms were registered, and the disease severity evaluated with SCORAD index [11] and itch severity scale. Results were analyzed using parametric and nonparametric statistical tools of "Statistica 13.2" software.

Results. 67 examined patients (47 male and 20 female) with AD onset in early childhood or puberty (ADe) were aged between 18-48 years: 77,1% between 18 and 29, 15,4% between 30-39 and 7,5% between 40-48 years. Among major criteria at admission pruritis, typical morphology and distribution with flexural lichenification, chronically or chronically relapsing course were present in 100% group members. Personal or family history of atopy was positive for 80,6% of the group only. The part of reminder 19,4% patients could not provide correct data due to lack of family information. Among minor criteria the most frequent were xerosis (100%), onset at early childhood (91%), itching when sweating (88,1%), and facial pallor or erythema (76,1%).

From this group, lichenoid pattern of the relapse demonstrated 29,8% patients, erythema-squamous pattern with lichenification - 56,7% patients, erythema-squamous pattern in 4 patients, vesicle-crusted pattern in 3 patients and pruriginous pattern in 2 cases. At initial examination median SCORAD value (k) in the group reached 45(39;57) points: 28 (42%) patients had severe course of AD (к > 40), 31 (46%) demonstrated moderate (20 <к < 40), and 8 (12%) as mild (k < 20). Median itch intensity in the group was 6(5;8) points from 10-points scale.

56 examined patients (43 male and 13 female) with AD onset in adulthood (ADa) were aged between 21-58 years: 5% between 21 and 29, 22% between 30-39, 33% between 40-49, and 41% between 50-58 years. 100% of the group had the following major criteria for the diagnosis: pruritis of different intensity, and chronically or chronically relapsing course. Flexural lichenification in adults was present in 64%, personal or family history of atopy in 38% of the patients. 14% of cases were without clear family history that complicated differential diagnosis. Among minor criteria ADa patients mostly had xerosis (68%), itching when sweating (37%), and white dermographism (14%). Clinical findings were dominantly presented with lichenoid pattern of flexural elbow joints (38%), dorsal and side surface of the neck, and flexural knee joints (21%). Anogenital skin and internal side of hip were affected respectively in 5,3% and 7,1% cases. Median SCORAD value in ADa patients at admission was 34,5(28;43,5) points: mild severity (k <20) in 18% patients, moderate (20< k <40) – in 80%, and severe (k >40) in 1 study group patient. Itch intensity in the group was 6(4;7) points from 10-points scale.

From 67 patients with ADe 91% had start of the symptoms in early childhood, with relapses of different severity and frequency until adulthood. Formally, date of initial diagnosis was not obligatory consistent with first episode of AD and, according to our estimations AD was diagnosed later then required in 17,9% patients (12 cases). Date of diagnosis in females mostly correlated with the disease start, on the contrary to 46,3% males of the group for whom AD was diagnosed at scheduled medical examination of liable for military service.

56 ADa patients had the disease onset between 21-34 years. For 75% cases AD was diagnosed from the first examination, for the reminder treatment for other "allergic skin problems" preceded AD management for months or years.

Patients with long personal history of AD routinely demonstrated frequently relapsing course of the disease. For 74,6% ADe patients relapses of different severity took place every year, for 11,9% – 2 and more times a year. Majority (62 patients from 67) developed relapses in spring, quite often in late autumn (23,9%), less frequently in winter (7,5%) or summer (10,4%). 4 patients could not detect any seasonal specificity. Adult patients with short history of AD had less frequent relapsing: 67,5% of the group had new aggravation every year. Seasonal dependence of aggravation was detected even fewer: 33,9% could connect their relapses with exact season.

Chronic skin itch is considered as constant sign of AD. For ADe patients it might be provoked by sweeting (89,6%), emotional exposure (31,3%), overheating (10,4%) or another triggers (14,9%) at remission. It necessary to note that females experience itch more often than males in response to emotional exposure (55% vs 25,6%) and overheating (20% vs 8,5%) (P < 0,05). Skin itch in ADa patients was mostly triggered by psychological trauma (96,4%) and contact triggers like cleaning fluids (48,2%), excessively cold and hot water (37,5%) or other solutions and dry substances (21,4%).

Impaired skin barrier due to genetically dependent epidermis structure abnormalities is a well-known problem of AD [12]. Constant xerosis was common for 35,8% ADe patients and did not depend on a season. Seasonal differences in xerosis severity were more common for males (72,3% of the group) than females (55%). Despite present xerosis 25,4% of ADe patients (15 males and 1 female) newer used moisturizers between acute relapses for different reasons: mild itch intensity, financial reasons, lack of information. Beside that self-selection of moisturizers was not always done in adequate manner: 66,7% of the patients only noted positive effect of moisturizers use. Females were satisfied with moisturizers more often than males (85,3% vs 57,4 %).

On the contrary to ADe patients not all from ADa group reported xerosis as a constant or severe symptom: 12,5% of them considered xerosis as significant sign of the disease. Nevertheless, resulting from treatment recommendations or attempts to manage the disease by themselves 64,3% patients of the group had experience of moisturizers use at remission. Effectiveness of

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moisturizers was evaluated as good or very good by only 32,7% of them that, on our opinion resulted from very short courses of treatment or less severe barrier impairment in ADa patients.

Emotional overexertion as an acute intensive psychosomatic reaction or chronic negative emotional influence is a well-known trigger for AD [14]. In adults of ADe group emotional stress due to job or education as a possible trigger was detected in 4 cases with mild AD, in 48,2% with moderate and 21% with severe AD relapse. Family-related emotional stress was reported as a trigger in 3 mild cases, 29% of moderate severity and 2 patients with severe relapse of ADe. In general, worsening of AD due to emotional trigger was dominantly reported by ADe patients with aggravation of moderate severity. On the contrary, ADa patients more often associated negative emotional exposure with mild AD episodes: 82,1% with mild, 67,9% with moderate and 37,5% of patients with severe stage of relapse.

In addition to emotional exposure patients from ADe and ADa groups considered the following triggers for their disease as important: food allergens or medications (95,5% and 71,4% respectively), environmental or house allergens (38,8% and 26,8% respectively), occupational triggers (10,4% and 42%). It is necessary to note, that such awareness of the patients was proved with laboratory tests or patch testing in 56,7% of ADe and 25% of ADa patients only.

Microbial antigens and staphylococcal super antigens are known as potent triggers of AD. Resulting from impaired structure and permeability of epidermal barrier skin of AD patients usually colonized by bacteria more intensively, then in healthy people, showing also difference in content of skin microbiome [15]. Increased content of bacteria does not obligatory lead to secondary pyoderma in AD patients. As patients usually aware not able to know and remember past episodes of pyoderma during AD relapses, we were able just to detect presence of this complication during examination of our patients. We observed signs of pyoderma in 20,9% patient with ADe (5 patients from 31 with moderate and 9 from 28 with severe course of AD) and 17,9% patients with ADa (9 from 45 with moderate and 1 with severe course). Obtained results cannot surely confirm increased bacterial colonization of patients' skin but prove secondary pyoderma as probable complication of AD worsening.

We analyzed cooperation of AD patients with healthcare system during their life with the disease. In childhood, 95,5% of ADe patients were followed by pediatrician or dermatologists at least from formal point of view. Only 34,3% of both groups' patients were observed on regular base, mostly at childhood. 67,2% of AD patients required in-patient treatment due to severe worsening with prevalence of females (75% vs 51,1%). Among ADe group 3 patients had episodic examinations by a pediatrician and were never observed by a dermatologist till the last relapse. In ADa group periodical contacts with a dermatologists or family physician took place during relapses only and, thus had almost exclusively "emergency" manner. Less, then 15% of the group was contacting dermatologists being worrying about possibility of upcoming worsening.

Chronic course of AD and easy direct access to medical drugs in Ukraine supported self-treatment of observed patients. 100% of examined patients had experience of self-prescription of different topical and systemic treatments, including those of non-official medicine. 82,1% of examined tried to influence the disease by physical modalities: sunbathing, sea salt bath, changing residence to another climate. Usually, such attempts started in childhood and provided positive results of different degree within ADe group. On the contrary 42,9% of ADa patients only could surely confirm positive effect of physical modalities that were tried.

Steroid-phobia is often observed in dermatological practice. 5 (7,5%) patients from ADe group avoided use of topical corticosteroids for different reasons till the last episode. Mainly, this phobia was acquired from their parents in childhood and kept as point of view for decades. On the contrary, all adults from ADa group had experience of topical corticosteroids use and do not see any limitation to use them when necessary. On the other hand, late-onset AD patients more often used topical steroids without control of dosage and durations.

Discussion. Different age of AD onset relates to some differences in important medical history of adult patients and making diagnosis. The background of this difference may be related to several reasons. Firstly, late onset is more probable caused by less severe genetic background and phenotype of AD. We noted that patients developed AD in adulthood less frequently presented past personal and family atopy history. Less frequently they demonstrated adrenergic skin response to irritation, itch due to sweeting; xerosis seems to be less severe and irritative for a patient. Relapses are less frequent and clinical findings at relapse are also not identical to those if AD started in childhood.

Secondly, behavior of adults is more closely impacted by occupational and social environment. Late onset of AD more related to triggering by emotional stress or contact irritation. Such patients prefer short intensive treatments to long-term use of moisturizers.

We suppose that difference in character and duration of AD coping by a patient is also of great importance. Those who started in childhood were more influenced by their parents and their adult behavior might reflect this experience. Steroid-phobia is an example of this relation. On the contrary when facing AD as a problem in adulthood first time, patients cope the disease less tragic and do not allow it to influence their lifestyle so much.

Conclusions:

1. Diagnostic criteria stay an important tool for diagnosing AD. Adult patients may demonstrate different set of positive major and minor criteria depending on time of the disease onset: personal or family allergic history, itch due to sweeting and white dermographism may be the most variable criteria in this case.
2. Established diagnosis of AD may not correspond to first manifestation of the disease that is possible both in childhood and adult patients.
3. Prognosing of AD course in adults may depend on general duration of the disease: starting in childhood AD more often has seasonal relation, constant xerosis, irritation by sweeting; patients have long experience of moisturizers and physical treatments use. If started in adulty AD more often aggravates due to emotional and occupational triggers, then others; long-term use of

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moisturizers more probably would be neglected by the patient.

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ДІАГНОСТИЧНІ КРИТЕРІЇ ТА КЛІНІЧНИЙ ПЕРЕБІГ АТОПІЧНОГО ДЕРМАТИТУ В ДОРОСЛИХ

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Резюме. Мета. Проаналізувати діагностичні критерії атопічного дерматиту (АД), що зазвичай використовуються для постановки діагнозу, а також типові прояви та анамнез дорослих пацієнтів із різним віком початку хвороби.

Матеріали та методи. Обстежено 23 хворих на АД віком 18-58 років, яких рандомізували у 2 групи: 67 пацієнтів із початком хвороби в дитячому та підлітковому віці, 56 – у дорослому. Вивчали медичний анамнез хворих та наявні клінічні прояви. Важкість АД оцінювали за шкалою SCORAD та інтенсивністю свербежу. Результати опрацьовували методами параметричної та непараметричної статистики.

Результати. Заледжно від віку початку АД пацієнти демонстрували певну різницю позитивності діагностичних критеріїв, анамнестичних та наявних проявів хвороби, співпраці із системою охорони здоров'я. Особиста та сімейна історія атопії та ліхеніфікації згинів були найбільш варіабельними великими критеріями. Найтиповішими позитивними малими критеріями були ксероз, свербіж від потовиділення, блідість або еритема обличчя та білий дермографізм. Свербіж найчастіше провокувався емоційним навантаженням, яке провокувало в пацієнтів різних груп різні за важкістю загострення. Ксероз був більш властивий хворим із раннім початком АД, які частіше використовували фізичні методи лікування з різною ефективністю.

Висновки. Дорослі хворі на АД демонструють певні відмінності в сукупності критеріїв діагнозу, реакції на тригери, вираженості основних проявів хвороби та ставлення до лікування різними методами залежно від віку початку хвороби.

Ключові слова: атопічний дерматит, початок хвороби, критерії.

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ДИАГНОСТИЧЕСКИЕ КРИТЕРИИ И КЛИНИЧЕСКИЙ ПЕРЕХОД АТОПИЧЕСКОГО ДЕРМАТИТА У ВЗРОСЛЫХ

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Резюме. Цель. Проанализировать диагностические критерии атопического дерматита (АД), обычно используемые для постановки диагноза, а также типичные проявления и анамнез взрослых пациентов с разным возрастом начала болезни.

Материалы и методы. Обследовано 23 больных АД в возрасте 18-58 лет, которых рандомизировали в 2 группы: 67 пациентов с началом болезни в детском и подростковом возрасте, 56 – во взрослом. Изучали медицинский анамнез больных и клинические проявления. Тяжесть АД оценивали по шкале SCORAD и интенсивности зуда. Результаты обрабатывали методами параметрической и непараметрической статистики.

Результаты. В зависимости от возраста АД пациенты демонстрировали определенную разницу положительности диагностических критериев, анамнестических и имеющихся проявлений болезни, сотрудничества с системой здравоохранения. Личная и семейная история атопии и лихенификации сгибов были наиболее вариабельными критериями. Наиболее часто положительными малыми критериями были ксероз, зуд от потоотделения, бледность или эритема лица и белый дермографизм. Зуд чаще всего провоцировался эмоциональной нагрузкой, которая провоцировала у пациентов разных групп разные по тяжести обострения. Ксероз был более присущ больным с ранним началом АД, которые чаще использовали физические методы лечения с разной эффективностью.

Выводы. Взрослые больные АД демонстрируют определенные различия в совокупности критериев диагноза, реакции на триггеры, выраженности основных проявлений болезни и отношения к лечению разными методами в зависимости от возраста начала болезни.

Ключевые слова: атопический дерматит, начало болезни, критерии.

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