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Comprehensive Analysis of In-Patient Treatment Strategy for Some Chronic Allergic Skin Diseases.

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ABSTRACT

We compared strategy for making diagnosis and in-patient treatment for patients with adult Atopic Dermatitis, Chronic Eczema and Lichen Simplex Chronicus. Current Ukrainian clinical protocols for abovementioned skin diseases were analyzed. It was determined that despite some differences in clinical findings and etiology of the diseases the treatment approaches specified by the protocols as well as prescriptions made by dermatologists were almost identical.

Keywords: Atopic dermatitis, eczema, lichen simplex chronicus, treatment.

1. Introduction

More than 10% of world population suffer from different allergic diseases^[1, 2]. According to WHO reports allergic skin diseases affect up to 1000000 people yearly^[3]. Chronic allergic skin conditions like Atopic Dermatitis, Eczema and Lichen Simplex Chronicus reach 10% to 40% of dermatologic cases in routine dermatology practice from country to country^[4]. The most accentuated disease among them is Atopic Dermatitis (AD), chronic recurrent disease with intensive skin itch and age-dependent typical clinical findings. Every year above 29 billions new cases of AD are registered all over the world^[5]. As common triggers for AD suggested different internal and external factors influenced the skin with impaired skin barrier^[6, 7]. Less information is available for Eczema and Lichen Simplex Chronicus (LSC) but available data allow suggesting common problems and similar approach to manage these patients.

The aim of this study was to review current standard strategy for making diagnosis and treatment for AD, eczema and LSC in Ukraine, to check ability of AD diagnostics criteria to differentiate the disease from others chronic allergic skin conditions, to compare actual treatments of these conditions as day-by-day choice of dermatologists.

2. Materials and methods

Data of 261 patients with chronic allergic skin diseases treated at dermatology hospital were examined. 67 patients from 261 examined suffered from AD (47 male and 20 female patients aged from 18 to 48 years). 42% of the patients had severe progression, 46% moderate and 12% mild progression of AD. 62 patients from 261 suffered from Chronic True Eczema (CTE). Among them 28 male and 34 female patients aged from 22 to 48 years. 6% of the group had severe progression, 74% moderate and 19% mild progression of CTE. Another 74 examined patients (48 male and 26 female patients aged from 18 to 62 years) suffered from Chronic Microbial Eczema (CME). 19% of the patients had severe progression, 73% moderate and 8% mild progression of CME. The rest 56 patients with LSC were identified as group with 43 male and 13 female patients aged from 21 to 58 years. 18% of the group had severe progression, 80% moderate and 1 patient had progression of the disease.

For all study patients clinical diagnosis was additionally checked with diagnostic criteria by Hanifin and Rajka^[8].

The patients were treated by dermatologists in accordance with Ukrainian clinical protocols for skin diseases: Order of Ministry of Health of Ukraine no. 312 from 08.05.2009. Selection of adequate treatment from listing specified by the clinical protocols was the matter of dermatologists' choice. Dermatologists' choice for in-patient treatment strategy was investigated for all study patients. As the comparator we checked data of AD patient treatment. Statistical analysis of the results of research carried out by conventional methods in experimental medicine using of the software package "Microsoft Excel-2000".

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3. Results and discussion

Current version of Ukrainian clinical protocols for skin diseases management specifies wide range of diagnostic procedure and treatments for many skin and sexually transmitted diseases. Our goal was not to evaluate the protocols but to understand the strategy recommended for managements of the most frequent chronic allergic skin diseases. Brief analysis showed that current version of clinical protocols gives wide range of choices for treatment AD and eczema patients. Precise countercheck of AD protocol against one for eczema showed their identity for almost 98% of content even if style of writing is different. Moreover there is no difference in treatment strategy for different types of eczema as only common protocol for management of acute and chronic eczema is available. We did not find separate protocol for LSC management and there may be suggestion to use one specified for relative diagnosis like AD or eczema. As a common observation it may be noted that the protocols do not limit dermatologists strictly with very short numbers of medications. There are no specific limitations and/or clinical and laboratory criteria which have to be taken in account while

prescribing medications from the groups recommended by the protocols. The doctor has quite wide range of treatments allowed to use and is completely free to select treatment for LSC depending on his/her knowledge.

In accordance with international dermatology practice and national regulations diagnosis of AD is made based on criteria recommended by JM Hanifin and G Rajka. The diagnosis of the rest of chronic allergic skin diseases is routinely based not on specific criteria but common clinical findings which in many cases may be similar to those at AD. We checked the criteria for all studied patients to realize some basic differences which allow ease recognizing AD from the other allergic skin diseases. Major criteria of AD were checked for all four study groups (table 1). As the result chronic course of a disease was the only major criterion positive for all study patients. Chronic itch and typical lesion morphology allowed ease distinguishing AD from both types of eczema but shows some relation between AD and LSC. Up to 64% of examined LSC patients had at least 3 major criteria required to make AD diagnosis. Thus minor criteria check was essential to make final diagnosis for them.

Table 1: Appearance of major criteria of AD at study patients, %

Major criteria	AD	CTU	CME	LSC
Chronic itch of skin	100%	0	0	100%
Typical morphology of skin lesions	100%	0	0	64%
Chronic course of a disease	100%	100%	100%	100%
Personal or family history of atopy	81%	42%	5%	36%

Out of 33 minor criteria of Hanifin and Rajka, and 13 of which were examined during the study AD patients routinely presented more than 3 of them (table 2). In practice, dermatologists noted the most evident criteria like xerosis,

facial erythema and early age of onset and itch on sweating. We may suggest the some AD patients had more minor criteria present at admission

Table 2: Positive minor criteria of AD at study patients, %

Minor criteria	AD	CTU	CME	LSC
xerosis	100%	15%	5%	68%
facial erythema	76%	0	0	0
early age of onset	91%	5%	0	0
infra-auricular fissure	16%	0	0	0
high IgE level	57%	13%	1%	9%
palmer hyperlinearity	12%	0	0	0
pityriasis alba	4%	0	0	0
hand eczema	4%	68%	0	0
white dermographism	55%	6%	1%	39%
cutaneous infection	24%	8%	9%	12%
itch on sweating	90%	15%	15%	25%
infra-orbital fold	64%	0	0	0
cheilitis	15%	0	0	0

But the last ones were ignored and not described as minimal required for the diagnosis 3-point score was proved already.

The other study patients also presented some minor criteria like xerosis, white dermographism and itch on sweating, cutaneous infection, and even high IgE level. Absence of the rest of AD minor criteria at eczema and LSC patients was clearly evident. There were 3 CTU patients with 3 minor criteria detected at a time. No one from CME and LSC groups had 3 or more of them. The result evidenced that minor criteria are very important for AD diagnosis and many times important

for the cases where major criteria are uncertain. We realized that AD may be differentiated from LSC mostly based on minor criteria while both types of eczema were easy to differentiate both with major and minor ones.

Treatment strategy for all groups of study patients included simultaneous prescription of several groups of medications (Table 3). We noted all medication prescribed during in-patient treatment phase. It is necessary to say that list of such treatments is shorter than that available in

Table 3: Treatment prescribed to study patients, %

Medication group	AD	CTU	CME	LSC
antihistamines	100%	100%	100%	100%
anti-allergic of different groups	100%	100%	100%	76%
sedatives, tranquillizers	100%	100%	56%	100%
probiotics	82%	67%	56%	62%
sorbents	64%	78%	34%*	52%
systemic glucocorticoids, cytostatics	8%	2%	4%	0
pancreatic enzymes	100%	82%	43%*	68%
immunomodulators and other medications with potency to enhance immune response	4%	62%*	92%*	44%*
systemic antibiotics	21%	17%	34%	7%
topical glucocorticoids	100%	100%	100%	100%
UVB-therapy	28%	0	0	0
topical antimicrobials	74%	52%	100%	34%*
others including non-drug therapy	8%	34%*	27%	72%*

Note: * - $p < 0, 05$ - significance of differences with the AD group;

Appropriate clinical protocols. Some medications/technics were not used probably because of different reasons: absence of direct indication or not enough medical data to make decision, financial limitations etc. Antihistamines and topical glucocorticoids were selected for 100% of patients from all the study groups. These seem to be the choice no.1 for management of all allergy skin problems. Majority of the patients were prescribed different anti-allergic medications, sedatives and probiotics. Patients with CME were probably the only group who required sedation for every second patient only. The rest of medications of choice were prescribed with different frequency depending on diagnosis. Comparison with AD group showed significant difference in prescription only for few medication groups: pancreatic enzymes (for CME), sorbents (for CME), topical antimicrobials (for LSC) and others (for CTU, LSC). Routinely dermatologists avoided to prescribe immunotherapeutic agents to AD patients unless severe progression required immune depression. On the contrary at least half of LSC, CTU patients and 92% with CME were prescribed some medications with expectation of immunomodulation. Sorbents were also very "popular" among dermatologists and we suggested that history of improper diet or some toxic influence was the reason of this common strategy. Thus it seems that routine in-patient treatment of all studied chronic allergic skin disease has not so much difference from diagnosis to diagnosis. Clear difference is connected with dermatologists' unwillingness to "irritate" AD patient's immunity with immunomodulation and prescription of pancreatic enzymes to all of them. LSC treatment strategy appeared very similar to that for CTU and less for AD patients. We suggest that future clinical protocols update will contain specific LSC protocol which will get in line with our observations.

4. Conclusions

Chronic allergic skin diseases remain common problem of modern dermatology and require clear to understand approach for making diagnosis and treatment. Criteria-based approach for diagnostic of AD showed high effectiveness and may be used as example for other skin conditions where diagnosis is not evident from case to case and cannot be proved by any highly specific laboratory investigations. Our check for AD criteria in patient with chronic eczemas and LSC showed close

relation between these skin conditions which anyway does not allow considering them as common disease.

Current Ukrainian clinical protocols for skin diseases probably need some update but their content allow dermatologists to select proper treatment for exact patients not being very limited in specified medications/technics. Such approach may be considered as some-times risky if in use by not very experienced specialist but dermatologist with experience would feel comfortable with this situation. Moreover, analysis of dermatologists' choice for treatment of mentioned above chronic skin diseases showed quite similar set of medications in use for all four checked diagnosis. The only difference was in use frequency for some of medications what is quite clear to explain. Thus dermatologists keep common strategy for in-patient treatment of AD, chronic eczemas and LSC that is partially reflected in actual clinical regulations and has to be taken in account for future updates.

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