ORIGINAL PAPER

CORRELATIONS BETWEEN CHANGES IN BIOCHEMICAL VALUES OF CONSTANTS AND EVOLUTION OF SKIN LESIONS, TWO CASES OF PSORIASIS VULGARIS TREATED SYSTEMICALLY WITH TWO HERBALS

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SUMMARY

This paper aims to analyze some dynamic biochemical values before and after the treatment with two natural preparations of two cases of psoriasis. Since therapeutic results were very good, we tried to find some correlations with common biochemical changes. There were increased cortisol levels, TSH and blood glucose, demonstrating the action of plant extracts on the hormonal status, with the purpose of mobilizing neuroendocrine system for balancing immunological mechanisms, responsible for pathogenesis of psoriasis vulgaris.

Abbreviations: Thyroid-Stimulating Hormone (TSH), Tumor Necrosis Factor-α (TNF-α), Human Leukocyte Antigen Cw6 (HLA-Cw6), Psoralen Combined with Ultraviolet A (PUVA), Ultraviolet B (UVB), The reactive oxygen metabolites (D-ROM), Deciliter (dl), Mililiter (ml), Miligrams (mg), Unit (U), Adrenocorticotropic hormone (A.C.T.H.), Parathyroid hormone (PTH)

Key words: skin, psoriasis, free radicals, immune, neuro-endocrine, treatment

RÉSUMÉ

Corrélations entre les changements dans les valeurs biochimiques des constantes et l'évolution des lésions de la peau, deux cas de psoriasis vulgaire traités par deux herbiers

Ce travail vise à analyser certaines valeurs dynamiques biochimiques d'avant et après le traitement par deux préparations naturelles de deux cas de psoriasis. Un que les résultats thérapeutiques étaient très bons, nous avons essayé de trouver quelques corrélations avec les changements biochimiques communs. Il y avait des niveaux accrus de cortisol, de la TSH et de la glycémie, ce qui prouve l'action des extraits de plantes sur le statut hormonal à des fins de mobiliser le système endocrin afin d'équilibrer les mécanismes immunologiques, responsables de la pathogenèse du psoriasis vulgaris.

Mots clés: peau, psoriasis, radicaux libres, immun, neuroendocrin, traitement

INTRODUCTION

Psoriasis is a multisystemic disease, with immune-mediated chronic and inflammatory disorders. Patients with psoriasis have a genetic predisposition for the disease, which occurs most commonly on the skin of the elbows, knees, scalp, and lumbosacral area.

Plaque psoriasis usually presents with plaques on the scalp, trunk, and limbs. These plaques appear as focal, raised, inflamed, edematous lesions, covered with silvery white scales ("micaceous").

The pathogenesis of this disease is not completely understood. There are multiple theories regarding the disease outbreak: an infectious episode, repeated injuries and stressful life events.

The main characteristic is epidermal infiltration with

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a large number of activated T cells that appear to be capable of inducing the proliferation of keratinocytes. The inflammatory process causes excessive production of various cytokines (for example, tumor necrosis factor-α [TNF-α], interferon-gamma, interleukin-12). Many of the clinical features of psoriasis can be explained by the production of these mediators. The main histological changes in the skin affected by psoriasis are vascular engorgement due to dilation of superficial blood vessels and accelerating epidermal cell division cycle (from 23-24 days to 3-5 days). The cells which normally lose their nuclei in the granular layer, it retains (parakeratosis).

Triggers: trauma, infections (e.g. streptococcus, staphylococcus, human immunodeficiency virus), alcohol, drugs, iodine, steroids, aspirin, lithium, beta-blockers, botulinum A, antimalarial drugs. Stress can worsen psoriasis as demonstrated by showing increased concentrations of neurotransmitters in psoriasis plaques. Some authors suggest that psoriasis is a stress related disease, as demonstrated by increased concentrations of neurotransmitters in psoriatic plaques.

Positive factor: the warm season, sunlight, pregnancy.

Genetic factors: Psoriasis is associated with specific alleles of human leukocyte antigen (HLA), in particular human leukocyte antigen Cw6 (HLA-Cw6). In some families, psoriasis is an autosomal dominant trait.

Epidemiology: Generally, about 2-3% of people are affected by psoriasis worldwide. The prevalence of psoriasis in African Americans is 1.3% compared with 2.5% for whites. [1]

Psoriasis can develop at any age. About 10-15% of new cases start in children older than 10 years. The average age at onset is 28 years.

Prognosis

Although psoriasis is usually benign, it is a disease with lifelong bouts with remissions and exacerbations and often refractory to treatment. It progresses to arthritis in about 10% of cases.

Mild forms of psoriasis do not appear to increase risk of death. [2] However, severe psoriasis male patients died 3.5 years earlier than men without psoriasis. Women with severe psoriasis died 4.4 years earlier than women without psoriasis. [2]

Psoriasis is associated with smoking, alcohol consumption, metabolic syndrome, lymphoma, depression, suicide, drug use.

In general, the risk for any type of other severe disease was 11% higher for people with mild psoriasis, 15% higher for patients with moderate psoriasis and 35% higher for those with severe psoriasis. [3, 4]

Pharmacotherapy
- Topical corticosteroids (e.g. Triamcinolone acetonide 0.025-0.1% cream, betamethasone 0.025-1% cream);
- Intramuscular corticosteroids;
- Coal Tar 0.5-33%;
- Keratolytic agent (e.g. Anthralin);
- Vitamin D analogs (e.g. Calcipotriol ointment, calcipotriol and betamethasone ointment);

- Topical retinoids (tretinoinAdapalene, tazarotene);
- Antimetabolite (e.g. Methotrexate);
- Immunomodulators (eg. 0.1% topical tacrolimus, cyclosporine, alefacept, ustekinumab);
- TNF inhibitors (eg. Infliximab, etanercept, adalimumab);
- Phosphodiesterase-4 inhibitors (eg. Apremilast);
- Systemic antipsoriatic agents (ex. Ustekinumab).

Nondrog therapies

- Therapy with sunlight or ultraviolet light (PUVA, UVB);
- Reducing stress;
- Climatotherapy.

MATEERIAL AND METHOD

Following the evaluation of the psoriasis etiopathology, we summarized that the onset and the maintenance of the disease are determined mainly by immunological factors, modulated by neurotransmitters released in stressful situations.

We randomly selected two cases of psoriasis vulgaris, both females, 48 years old and respectively 51 years old. Both cases have been blood and urine sampled before treatment and after 6 weeks of treatment, comparing biochemical values, hormones values, serotonin (neurotransmitter) and quantitative assay of free radicals (oxidative stress evaluation).

Patients received treatment with two pharmaceutical products including herbal extracts in the following amounts, with the main specified actions:

D-ROM test measures oxidizing ability in the plasma sample by spectrophotometry, this method mainly shows the free radicals derived from hydroperoxides.

In healthy subjects, D-ROM has a value between 250 and 300 units CARR (U CARR). Values above 300 U CARR indicate a state of oxidative stress [5, 6].

Klinhaem

Recommendations: The unique combination of plants involved in detoxification and improvement of the

Figure 1 - Scalp injury psoriasis

Figure 2 - Elbow injury psoriasis

disorders associated to the skin lesions.

Usage: oral, 5 ml twice daily.

5 ml syrup composition comprising: Rubiacordifolia root extract - 612.5 mg: immune modulator, detoxifying.

Hemidescusindicus root extract - 612.5 mg: antitoxic, cleansing, lymphatic decongestive, antirheumatic, aphrodisiac stimulant, rejuvenation.

Acacia catechu extract roots - 612.5 mg: peripheral vasoconstriction, reduces inflammation.

Extract from the roots of Smilax china - 250 mg: anti psoriatic action.

Azadirachtaindica extract - 250 mg: antiinflammatory action, general tonic.

Honey 100 mg

Tinosporacordifolia extract - 87.5 mg: immunostimulant.

Turmeric rhizome extract (Curcuma Longa) - 75 mg: removes toxins, antimutagenic action, anticancer, antiinflammatory, hepato-protective, antioxidant, healing, lowers cholesterol.

Stresclinderma

Usage: 1-2 capsules twice a day. The capsules are swallowed whole with a glass of water

Composition: Curcuma longa powder - 250 mg: removes toxins, antimutagenic action, anticancer, anti-inflammatory, hepato-protective, antioxidant, healing, lowers cholesterol.

Extract Camellia sinensis (green tea) leaf - 70 mg: calming effect on the nervous system, anti-oxidative action.

Monnieri Bacopa extract - 35 mg: increasing the general tone of the body, restoring the nervous system, anti-inflammatory, antioxidant, protecting the body from free radicals unfavorable action.

Acacia catechu extract, bark - 35 mg: astringent, reduces inflammations.

Extract of Convolvulus pluricaulis - 30 mg: actions upon the brain, the benefits are related to longevity, increases vitality and intuition, and further concentration.

Taraxacumofficinale extract (dandelion), roots - 25 mg blood cleanser action, detoxifying, calming, sedative.

Azadirachtaindica extract, leaves - 25 mg: anti-inflammatory action, general tonic.

Ocimum sanctum extract, fruits - 25 mg: analgesic, antipyretic, anti-inflammatory, immunostimulant.

RESULTS

After 6 weeks of treatment, the specific lesions of psoriasis disappeared by 100%.

To try a correlation of the excellent therapeutic outcome with biochemical investigations values before and after treatment, we calculated the arithmetic mean of the reference range for each parameter analyzed. The differences between test results and the arithmetic mean calculated were assessed a percentage of the average values and then entered in graphic columns.

The pathological values ANALYSIS:

Patient I.C.: the amount of free radicals was 21 U Carr below the minimum reference value before treatment, then values increased with 10 U Carr above the maximum reference after treatment.

The amount of albumin was below the reference value in both patients, initially with 5.34 percent, then after treatment the value decreased by 20 percent.

Beta globulins increased above the reference value with an insignificant percentage of 0.1%, in contrast, gamma globulins, which were originally 1.62%, increased to 4.2% after treatment.

The albumin / globulin, initially fell 0.1%, fell further, to 0.31% after treatment.

There was a slight increase in progesterone, 0.48 mg / ml.

Patient R. S. : Impressive large amounts of free radicals, 250 U Carr before treatment, decreased by only 49 U Carr after treatment.

Variations of pathological beta globulins were relatively small, 0.1%, then 0.27%.

Total cholesterol initially increased by 37 mg / dL, decreased by 5 mg / dl.

From the analysis of 26 biological parameters of the two patients, we observed mainly the following:

Patient I.C. - Increased values: TSH by 88.64%, serum cortisol by 79.66%, alpha 2 globulin by 31,79%, free radicals by 29.46%, blood glucose by 20.5%;

- Decreased values: C reactive protein by 72.10%, alpha 1-globulin by 52%, rheumatoid factor by 20 %, serotonin by 18.91%, ACTH by 11.48%.

Patient R. S. - Increased values: serotonin by 40.52%, gamma globulins by32.29%, blood cortisol by 24.24%, TSH by 22.27%,blood glucose by 13.71%.

- Decreased values: free radicals by 17.82%, triglycerides by 16%, cholesterol by 3%.

CONCLUSIONS

Treatment of psoriasis with common herbal preparations "Stresclin derma" and "Klinhaem" can cause disappearance of specific lesions of psoriasis disease vulgaris form (common).

The combined therapeutic effect of the two products

Table 1 - The test results before and after treatment

The name of analysis	Reference range	The patient I.C03.04.15	The patient I.C16.05.15	The patient R.S.03.04.15	The patient R.S.16.05.15
Free radicals (qantitative)	250-300 U.Carr	229 U.Carr	310 U.Carr	550 U.Carr	501 U.Carr
A.C.T.H.	< 46 pg/ml	14.0 pg/ml	-	8.83 pg/ml	17.4 pg/ml
	7.2-63.3 pg/ml	-	17.41 pg/ml	-	-
PTH	11 – 67 pg/ml				16.8 pg/ml
Serotonin	40-200ug/l	167.20 ug/l	144.50 ug/l	64.95 ug/l	113.57 ug/l
Albumins	57.00-65.00 %	51.66 %	47 %	54.05 %	54.22 %
Alpha 1globulins	1.0-4.0 %	3.5 %	2.2 %	3.6 %	3.8 %
Alpha 2globulins	6.00-13.00 %	9.48 %	12.5 %	10 %	10.40 %
Beta globulins	8.00-13.00 %	12.78 %	13.1 %	13.27 %	13.10 %
Gamma globulins	12.50-21.00 %	22.62 %	25.2 %	13.06 %	18.47 %
Albumins/globulins	1.2-1.5	1.1	0.89	1.2	1.2
Total protein	6.70-8.70 g %	7.13 g/dl	7.4 g/dl	7.01 g/dl	7.01 g/dl
Complement C3	83-183 mg/dl	102 mg/dl	106 mg/dl	130 mg/dl	134 mg/dl
Complement C4	15-57 mg/dl	30,5 mg/dl	30 mg/dl	37.6 mg/dl	37.5 mg/dl
Estradiol	< 144 pg/ml	86 pg/ml	-	< 10 pg/ml	< 10 pg/ml
	18.4-201pmol/l	-	126.1 pmol/ml	-	-
Progestin	< 0.2 ng/ml	0.1 ng/ml	-	0.1 ng/ml	0.1 ng/ml
	0.3-2.5 ng/ml	-	3.02 ng/ml	-	-
Cortisols	3.7-19.4 ug/dl	7.4 ug/dl	-	11.4 ug/dl	14.2 ug/dl
	171-536 nmol/l	-	508.1nmol/l	-	-
Total cholesterol	100-200 mg/dl	191 mg/dl	175 mg/dl	237 mg/dl	232 mg/dl
C-reactive protein	0.10-6.00 mg/l	1.44 mg/l	-	1.60 mg/l	2.01mg/dl
	< 0.5	-	0.20 mg/dl		
Blood glucose	60-115 mg/dl	63.00 mg/dl	84 mg/dl	83 mg/dl	95.00 mg/dl
Triglycerides	50-150 mg/dl	94.00 mg/dl	127 mg/dl	104 mg/dl	80 mg/dl
Rheumatoid factor	< 10 UI/ml	<8UI/ml	9UI/ml	< 8 UI/ml	< 8 UI/ml
Free T4	0.89-1.74ng/dl	1.44 ng/dl	-	1.43 ng/dl	1.47 ng/dl
	10.6-22.7pmol/l	-	5.1pmol/l	-	-
TSH	0.4 – 4 uUI/ml	0.98uUI/ml	1.46 uUI/ml	2.57uUI/ml	3.06 uUI/ml
Urinary density	1015-1025 g/l	1025 g/l	1025 g/l	1020 g/l	1020 g/l
Urinary Ph	5.0 - 8.0	5	5	6	6

Table 2 - The weighted-average of the test results before and after treatment

The name of analysis	Reference range	The patient I.C.03.04.15		The patient I.C.16.05.15		The patient R.S.03.04.15		The patient R.S.16.05.15	
		Dif.	%	Dif.	%	Dif.	%	Dif.	%
Free radicals (qantitative)	275	-46	-16,73	+35	+12,73	275	100	+226	82,18
A.C.T.H.	23	-9	-39,13	-	-	-14,27	-62,4	-5,6	-24,35
	35,25	-	-	-17,84	-50,61	-	-	-	-
PTH	39	-14,20	-36,41	-13,10	-33,59	-27,20	-69,74	-22,2	-56,97
Serotonin	120	+47,2	39,33	+24,5	20,42	-55,05	-45,88	-6,43	-5,36
Albumins	61	-9,34	-15,31	-4	-6,56	-6,95	-11,39	-6,78	-11,11
α 1globulins	2,5	+1	40	-0,30	-12	+1,10	44	+1,40	56
α 2globulins	9,5	-0,02	-0,21	+3	31,58	+0,5	5,26	+0,90	9,47
β globulins	10,5	+2,28	21,71	+2,60	24,76	+2,77	26,38	+2,60	24,76
γ globulins	16,75	+5,87	35,04	+8,45	50,44	-3,69	-22,02	+1,72	10,27
Albumins/globulins	1,35	-0,25	-18,52	-0,46	-34,07	-0,15	-11,11	-0,15	-11,11
Total protein	7,7	-0,57	-7,40	-0,3	-3,90	-0,69	-8,06	-0,69	-8,96
Compl.C3	133	-31	-23,31	-27	-20,30	-3	-2,26	+1	0,75
Compl.C4	36	-5,5	-15,28	-6	-16,67	+1,6	4,44	+1,5	4,17
Estradiol	72	+14	19,44	-	-	-62	-86,11	-62	-86,11
	109,7	-	-	16,4	14,95	-	-	-	-
Progesterone	0,1	0	0	-	-	0	0	0	0
	1,4	-	-	+1,62	+1,62	-	-	-	-
Cortisol s.	11,55	-4,15	-35,93	-	-	-0,15	-1,30	+2,65	22,94
	353,5	-	-	+154,6	43,73	-	-	-	-
Total cholesterol	150	+41	27,33	+25	16,67	+87	58	+82	55
C-reactive protein	3,09	-1,61	52,10	-	-	-1,45	-46,93	-1,04	-33,66
	0,25	-	-	-0,05	-20	-	-	-	-
Blood glucose	87,5	-24,5	-28	-3,5	-4	-4,5	-5,14	+7,5	8,57
Triglycerides	100	-6	-6	+27	27	+4	4	-20	-20
Rheumatoid factor	5	-2	-40	-1	-20	-2	-40	-2	-40
Free T4	1,31	+0,13	9,92	-	-	+0,12	9,16	+0,16	12,21
	16,65	-	-	-1,55	9,31	-	-	-	-
TSH	2,2	-1,21	-55	-0,74	33,64	+0,37	16,82	+0,86	39,09
Urinary density	1010	+15	1,49	+15	1,49	+10	0,99	+10	0,99
Urinary Ph	6,5	-1,5	-23,08	-1,5	-23,08	-0,5	-7,69	-0,5	-7,69

Figure 3 - 26 biological parameters variation of patient I.C. after treatment
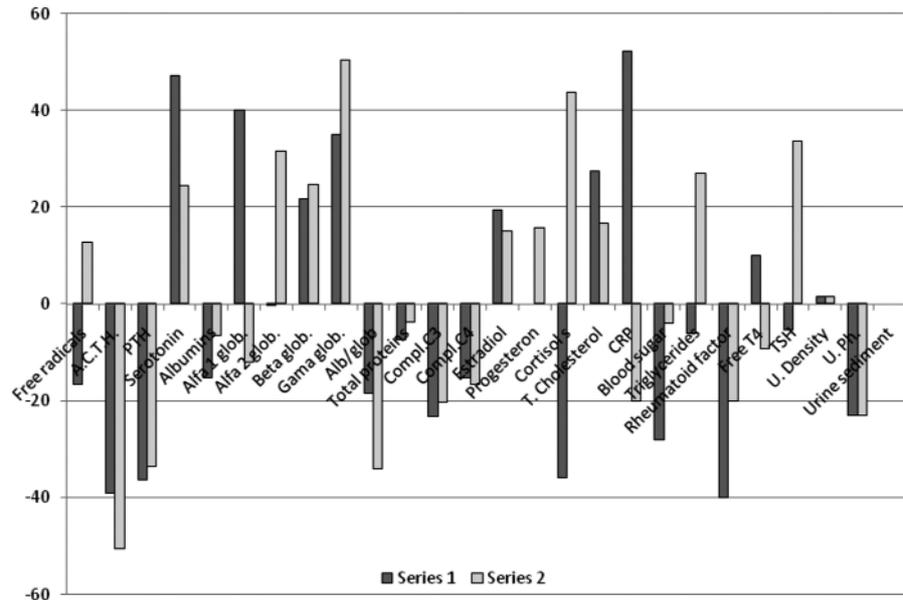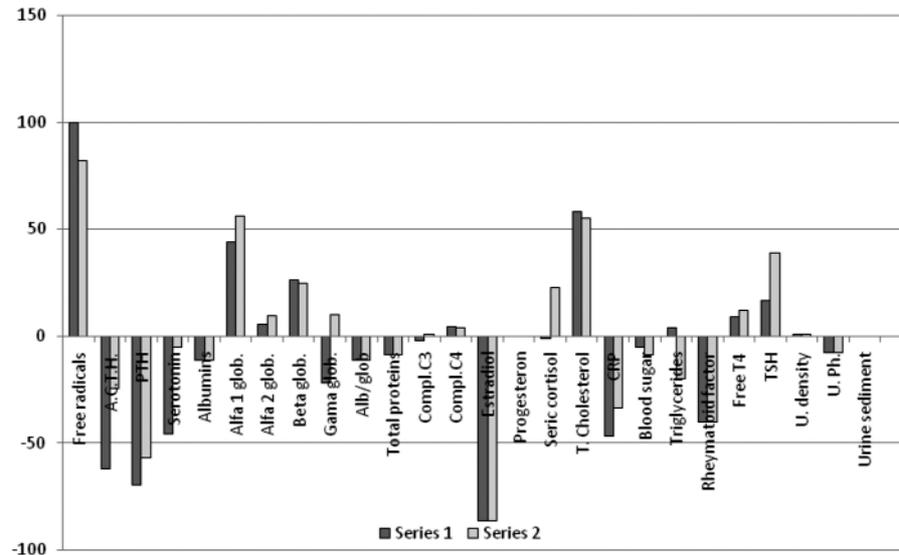

Figure 4 - Variation of 26 biological parameters of patient R.S. after treatment

can be explained by the complementary action in two ways: immunological ("Klinhaem") and neuroendocrine ("Stresclin derma").

The main biochemical changes observed in both patients are increased cortisol levels, TSH and blood glucose. Noteworthy is the change in the values of free radicals, which increased in the patient with low baseline levels, but decreased significantly in patients with very high baseline.

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