Serum Protein electrophoresis: an immunological blood test in the planning of the homeopathic treatment.
Decoding Hahnemman and similia similibus curentur.

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Abstract

Contex: Explanation of the effectiveness of homeopathic treatment based on the method of preparation of homeopathic remedies and the significance of knowledge of the patient's defense mechanism in the planning of homeopathic treatment.

Objective: This study examines how can help serum protein electrophoresis in predicting an effective treatment, in selecting the appropriate potency (stimulation) and in confirmating the non-toxicity of the method in the immune system.

Methods: 94 subjects have participated and 140 tests have been produced. Agarose gel electrophoresis was performed using a Helena SAS-3 device.

Results: Correlation of findings in the serum protein electrophoresis and the response in homeopathic treatment. Modification of given potency according to patient's immune state.

Conclusion: The speculation of the immune state that the homeopath obtains only through the clinical interview is difficult to be accurate. The addition of an immunological test, such as serum protein electrophoresis, provides objective facts of the immune system.

Introduction

In our five year research, we examine the possibility of using the serum protein electrophoresis as a diagnostic and prognostic tool of the condition of alertness of the immune system in conjunction with the homeopathy interview of the patient in the planning of the homeopathic or other treatment. According to our research, any pharmaceutical interference, energy or chemical, causes certain changes in the organism as well as an "acute condition", minor or major, depending on the stimulant and activates the immune system. The homeopathic interview allows the

selection of the similar substance and the successful activation of similar structures of matter, which manifests as “an artificial acute disease” (similia similibus). However it is of equal importance, the evaluation of the immune system and its alertness to respond to the “caused acute disease” (curentur). The speculation of the immune system state that the homeopath obtains only through the clinical interview is difficult to be accurate, as the evaluation is rather subjective and further more it demands quite a lot of experience. The addition of an immunological test, such as the serum proteins’ electrophoresis provides objective facts of the immune system. This specific test has been picked up for our research because serum proteins play an essential role in the immune response and immune regulation, after causing an "acute" condition. As test, it reflects the balance between synthesis and catabolism of the proteins of blood and count a lot of fractions which are detected in the regions of albumins and globulins.

Materials and Methods

In our research participated 94 patients aged from 14 years to 87 years, 56 women and 38 men, who counted a total of 140 serum protein electrophoretic patterns. For each pattern a vein blood sample was taken. A SAS-3 Helena laboratories company device (agarose gel) was used to make the measurements of electrophoresis.

We separated our patients in five groups:

1st* patients’ *group: (19 people). In this group of patients, protein electrophoresis was carried out before starting the homeopathic treatment and the test was repeated after one month or later as a laboratory indicator of follow up, besides the history.

2nd* patients’ *group: (54 people). In this group of patients, after estimating the state of the patients’ immune system using the "health levels” by Vithoulkas, test were performed and their electrophoretic pattern matched with the findings above.

(The “Health levels” by Vithoulkas besides other diagnostic methods it includes a questionnaire on the reaction of the organism on previous acute conditions and infections (for example a fever, its onset, its pitch and its duration) etc. Overall, in terms of Immunology, one could support that it is an empirical and subjective approach to the degree of therapeutic response to homeopathic remedy and hence the state of the immune system and the degree of alertness. The long-term observation through this empirical approach, has so far organized successful information about homeopathic response after specific stimuli and potency of

remedies.)

We quote the table of "Health Levels" [1]:

Table1: "Health Levels", adapted with permission from George Vithoulkas.

Group	Level	Common conditions – clear picture of the remedy – therapeutic aggravation – appearance of infections – appearance of fever – cure or non-cure prognosis.	Potency & remedies	Possible life expectancy (years)
I	L1	• **MAINLY FUNCTIONAL DISORDERS** • **CAN BE CURED DIRECTLY BY HOMEOPATHY** • **INFECTIONS ARE UNCOMMON, BUT WITH CONCOMITANT HIGH FEVER** • **TYPICAL MICROORGANISMS, e.g. staphylococcus - (Gram positive) streptococcus** • **CHILDREN'S DISEASES** • **MILD THERAPEUTIC AGGRAVATION WITH HOMEOPATHIC TREATMENT**	From 50 M to CM (1-2 remedies)	100
	L2			90
	L3			80
II	L4	• **AS THE LEVEL BECOMES LOWER, SERIOUS ACUTE INFECTIONS BECOME MORE COMMON (e.g. PNEUMONIA, et al.)** • **VIRAL INFECTIONS or INFECTIONS by MICROORGANISMS RESISTANT TO ANTIBIOTICS, e.g. Proteus vulgaris - Pseudomonas aeruginosa, etc. (Gram negative)** • **STRONG INITIAL THERAPEUTIC AGGRAVATION WITH HOMEOPATHIC TREATMENT**	From 10 M to 1M (2-4 remedies)	70
	L5			60
	L6			50
III	L7	• **MORE SERIOUS CHRONIC DEGENERATIVE DISEASES** • **AUTOIMMUNE DISEASES - EMOTIONAL DISORDERS** • **ACUTE INFECTIONS ARE NOT COMMON** • **INABILITY OF THE BODY TO DEVELOP HIGH FEVER** • **VERY STRONG INITIAL THERAPEUTIC AGGRAVATION WITH HOMEOPATHY - REAPPEARANCE OF ACUTE INFECTION DURING TREATMENT**	Up to 200 CH (4-7 remedies)	40
	L8			30
	L9			20
IV	L10	• **VERY SERIOUS CHRONIC DISEASES AFFECTING THE IMMUNE AND THE CENTRAL NERVOUS SYSTEM** • **TOTAL ABSENCE OF ACUTE INFECTIONS** • **NO INITIAL THERAPEUTIC AGGRAVATION WITH HOMEOPATHIC TREATMENT** • **CONDITIONS INCURABLE BY HOMEOPATHY (PATHOLOGICAL LESIONS, IRREVERSIBLE)** • **HOMEOPATHY CAN ONLY OFFER RELIEF**	From 30 CH to 6x (remedies are changed frequently)	15
	L11			10
	L12			5

3rd patients' group: (16 people). In a third group, tests (serum protein electrophoresis) were performed in subjects with severe diseases, in which it seems that the subjects' health level often does not match the severity of their condition. Of those patients, some followed homeopathic treatment regimens, some others

conventional treatment regimens and some others a combination of the two. This group was included in our research material, for consideration of the found normal or slightly abnormal electrophoretic patterns, as opposed to the severity of their condition and their good response to homeopathic treatment.

4th patients' group: (3 people). In a fourth group of puerperants, tests were performed a few days following normal delivery.

5th patients' group: (2 people). In this group tests were performed before and after intake of a conventional medicine (progesterone) in the first subject (prescribed by the subject's conventional endocrinologist) and in the second one before and after discontinuation of a conventional medicine (acetylsalicylic acid).

The research data

Measurements of the total amount of blood proteins and individual fractions of albumin and globulin are determined by laboratory method and the normal range is approximately from the albumin 3.5-5 g/dl (children 2.9-5.5 g/dl) and globulins from 2.2-3.9 g/dl. However, the individual differences of fractions in the regions of albumin and globulins and their interrelationships are of very high importance, information that generally is given in the electrophoretic pattern of proteins in proteinogram. The following fractions appear with protein electrophoresis: albumins, alpha1-globulins, alpha2-globulins, β-globulins (β1, β2) and γ-globulins.

Table 2: We quote the normal values and some proteins that are included in each fraction (many of them belong to acute phase proteins), in order to understand the findings below.

Serum fractions	**Normal values**	**Some proteins which are measured in each fraction**
Albumins	55.8 - 65%	
$alpha_1$-globulins	2.2 – 4.6 %	α_1-antitrypsin, TBG, transcortin, a1-acid glycoprotein, amyloid A protein, alpha-fetoprotein etc.
$alpha_2$-globulins	8.2 – 12.5 %	Haptoglobulin, ceruloplasmin, α_2-macroglobulin, etc.
$beta_{(1+2)}$-globulins	7.2 – 14.2 %	β_1-transferin, β-lipoprotein, C3 factor of C, fibrinogen, etc.
γ-globulines	11.5 – 18.8 %	Antibodies, c-reactive protein, etc.

Table 3: 1st group of subjects: results before and after homeopathic treatment.

SN	Age	Sex	Condition	N° of protein ogram	Date	Albumins (%)	alpha1-globulins (%)	alpha2-globulins (%)	beta1+beta 2 globulins (%)	gamma-globulins (%)	Group
1	22	f	Migraine	1st	21/10/08	58.71	3.23	8.87	13.98	15,21	I
				2nd	30/10/08	60.13	3.26	8.35	14.18	14,07	
				3rd	18/11/08	61.5	3.21	8.55	13.02	13,72	
				4th	10/12/08	59.86	3.10	10.47	12.04	14,53	
2	22	f	Menstrual disorders	1st	13/11/07	56.83	2.40	9.61	13.91	17,26	I
				2nd	17/11/08	58.18	3.05	8.70	12.72	17,35	
3	42	f	Anemia, severe stress	1st	17/10/08	56.44	2.89	12.15	13.23	15.30	I
				2nd	22/12/08	55.94	2.83	**13.69 H**	11.52	16,02	II
4	22	f	Hashimoto's thyroiditis & cold nodules	1st	24/01/08	**54.43 L**	3.25	11.45	12.59	18,28	III
				2nd	17/11/08	58.16	3.25	8.92	12.97	16,70	I
5	21	f	Dysmenorrhea	1st	24/01/08	58.34	2.55	8.38	12.21	18,52	I
				2nd	17/11/08	60.1	3.13	8.63	10.43	17,72	
6	19	f	Asthma	1st	13/12/07	59.26	3.40	8.69	12.67	15,97	I
				2nd	11/03/08	60.76	2.92	8.70	11.96	15,66	
7	47	f	Breast cysts	1st	13/11/07	58.64	3.69	**13.27 H**	9.78	14,62	II
				2nd	17/11/08	62.02	3.26	11.62	9.74	13,36	I
8	48	f	Insomnia & panic attacks	1st	31/01/08	**53.16 L**	2.83	12.02	10.39	**21,61 H**	III
				2nd	17/11/08	55.07	2.68	10.82	10.84	**20,59 H**	
9	55	f	Diabetes mellitus and rheumatoid arthritis	1st	09/06/00	**51.07 L**	3	**12.8 H**	**14.80 H**	18.33	III
				2nd	27/02/07	**52.01 L**	2.41	11.89	**15.71 H**	17.98	
				3rd	29/11/07	**55.10 L**	2.59	11.75	**14.81 H**	15.76	
				4th	19/05/08	**50.38 L**	2.80	**16.50 H**	14.02	16.29	
				5th	02/06/08	**51.07 L**	2.58	**16.97 H**	11.28	18.09	
				6th	30/06/08	**51.61 L**	2.47	**16.57 H**	10.99	18.36	
				7th	05/08/08	**51.80 L**	2.89	**14.11 H**	12.79	18.42	
				8th	11/09/08	**51.06 L**	2.77	**14.84 H**	12.57	**18.77 H**	

				9th	04/11/08	**52.35 L**	3.20	**14.44 H**	12.34	17.67	
10	56	f	Rheumatoid arthritis, adrenalectomy & splenectomy 10 years ago	1st	28/11/07	**45.3 L**	3.7	**15.2 H**	14.7	**21.1 H**	IV
				2nd	15/02/08	**49.3 L**	3.3	**15.1 H**	12.8	**19.5 H**	III
				3rd	17/10/08	**47.7 L**	3.1	**14.7 H**	10.8	**23.7 H**	
11	22	f	Gastroesophageal reflux disease (GERD)	1st	30/10/07	**55.59 L**	2.65	11.75	10.17	**19.83 H**	III
				2nd	12/02/08	56.56	2.66	8.61	12.96	**19.21 H**	II
12	62	f	Hashimoto's thyroiditis, constipation, cholelithiasis, Ca 19.9 = slightly elevated	1st	19/05/08	**53.37 L**	3.00	**13.26**	9.91	**20.45 H**	III
				2nd	29/08/08	**52.35 L**	3.82	12.29	11.04	**20.49 H**	
13	56	f	H. pylori gastroenteritis+ severe fatigue	1st	15/01/07	**54.14 L**	3.32	9.57	**15.86 H**	17.11	III
				2nd	27/02/07	57.19	2.63	9.73	14.13	16.33	I
				3rd	27/03/07	57.20	2.91	10.24	**14.41 H**	15.24	II
				4th	09/02/08	62.16	2.78	8.29	13.08	13.7	I
				5th	02/06/08	57.48	2.34	10.08	**14.90 H**	15.21	II
				6th	10/12/08	56.41	3.17	**13.67 H**	11.70	15.05	
14	60	m	Lower back pain, chronic bronchitis	1st	11/12/07	56.97	2.84	8.41	**14.45 H**	17.32	II
				2nd	05/11/08	56.67	2.49	8.58	**14.33 H**	17.93	
15	44	m	Gastroesophageal reflux disease (GERD)	1st	18/09/07	61.07	2.22	**7.53 L**	12.89	16.28	II
				2nd	27/11/07	56.70	2.36	12.32	11.96	16.67	I
				3rd	15/07/08	56.37	3.09	**12.81 H**	8.22	**19.51 H**	II
16	76	m	Allergies (IgE = ↑↑↑), insomnia	1st	19/05/08	**55.03 L**	2.91	11.43	10.61	**20.02 H**	III
				2nd	29/08/08	**52.84 L**	3.81	11.75	10.88	**20.73 H**	
17	67	m	Phobias	1st	14/03/07	**51.78 L**	3.08	**7.30 L**	11.10	**26.74 H**	III
				2nd	21/11/07	**54.01 L**	3.39	**7.05 L**	11.73	**23.81 H**	
				3rd	09/12/08	**54.91 L**	3.16	**7.35 L**	13.49	**21.09 H**	

18	52	m	Iscialgia left with muscle atrophy	1st	31/01/08	57.81	2.93	8.43	12.46	18.37	I
				2nd	17/11/08	58.65	3.62	9.76	10.09	17.88	
19	59	m	Ulcerative colitis	1st	04/06/07	**54.60 L**	2.69	10.04	13.23	**19.44 H**	III
				2nd	04/10/07	**52.00 L**	2.66	11.67	13.52	**20.15 H**	
				3rd	15/11/07	**53.93 L**	2.56	11.40	13.48	**18.63 H**	
				4th	06/02/08	**52.50 L**	2.87	9.30	**14.52 H**	**20.80 H**	
				5th	22/04/08	**52.19 L**	3.03	9.87	13.61	**21.29 H**	
				6th	02/10/08	**51.56 L**	2.89	12.02	13.80	**19.73 H**	

H=high, L=low

Table 4: 2nd group of subjects: serum protein electrophoresis tests for the determination of the health level.

SN	**Age**	**Sex**	**Condition**	**N° of proteinogram**	**Date**	**Albumins (%)**	**alpha1-globulins (%)**	**alpha2-globulins (%)**	**beta1+beta2 globulins (%)**	**gamma-globulins (%)**	**Group**
20	17	f	Sensation of imminent death, panic attacks, urinary tract infections	1st	22/04/08	**54.70 L**	3.18	11.33	11.68	**19.10 H**	III
21	85	f	Osteoarthritis, ischemic stroke after 3 months – death	1st	05/03/07	**52.58 L**	3.30	**14.84 H**	**14.68 H**	14.60	III
22	26	f	Anaemia, weakness	1st	25/02/08	**47.21 L**	3.93	12.03	13.91	**22.91 H**	III
23	48	f	Breast cysts	1st	11/11/08	60.60	4.53	9.45	13.22	12.20	I
24	43	f	Fainting episodes	1st	31/10/08	56.82	3.61	10.15	12.00	17.42	I
25	62	f	Hashimoto's thyroiditis, operated parotitis' mixed tumor	1st	29/11/08	59.08	3.33	12.30	10.83	14.46	I

26	54	f	Eczema	1st	4/12/08	57.02	3.28	8.78	13.07	17.84	I
27	77	f	Weakness	1st	29/08/08	**52.11 L**	3.25	11.31	14.07	**19.26 H**	III
28	60	f	Insomnia, nervousness, severe stress	1st	14/11/07	57.56	3.81	**13.88 H**	11.39	13.36	II
29	60	f	Osteoporosis, right forearm fracture	1st	29/08/08	58.75	4.37	8.90	12.91	15.08	I
30	53	f	Anaemia, migraine	1st	15/04/08	59.93	3.01	8.60	12.95	15.52	I
31	57	f	Gastroesophageal reflux disease (GERD)	1st	28/02/08	55.9	2.54	10.89	13.70	16.97	I
32	37	f	Headache	1st	04/07/08	62.22	3.69	9.91	9.96	14.22	I
33	58	f	Chronic bronchitis, rhinitis	1st	11/04/08	58.59	2.5	11.75	9.98	17.18	I
34	58	f	Hashimoto's thyroiditis	1st	03/06/08	56.26	2.69	11.01	11.89	18.16	I
35	43	f	Severe stress	1st	19/05/08	59.20	3.27	10.37	9.93	17.23	I
36	25	f	Acne	1st	24/01/08	58.21	3.29	8.33	12.58	17.58	I
37	42	f	Anaemia	1st	20/02/08	58.91	3.51	9.82	13.15	14.61	I
38	56	f	Insomnia, severe stress	1st	29/08/08	59.15	3.29	**6.07 L**	**17.86 H**	13.62	II
39	22	f	Sinusitis	1st	30/10/07	59.67	4.10	10.49	11.20	14.54	I
				2nd	08/12/08	59.82	4.43	8.32	12.98	14.45	
40	22	f	Hashimoto's thyroiditis	1st	27/11/07	58.11	4.24	8.20	11.10	18.33	I
				2nd	27/11/08	59.88	4.35	8.48	10.67	16.62	
41	27	f	Dysmenorrhea	1st	5/11/08	**54.92 L**	2.68	6.86	13.58	**21.95 H**	III

42	59	f	Severe stress, operated breast Ca 4 years ago	1st	30/10/08	**53.97 L**	2.61	10.21	11.66	**21.55 H**	III
43	40	f	Brucellosis, ankle arthritis	1st	10/10/08	**55.39 L**	3.07	**13.34 H**	12.5	15.70	III
				2nd	29/12/08	**52.96 L**	3.12	11.09	**14.78 H**	18.05	
44	53	m	Cholecystitis with concurrent cholelithiasis	1st	26/02/08	56.55	2.5	8.85	14.03	18.07	I
45	50	m	Gastroesophageal reflux disease (GERD)	1st	05/11/08	**54.69 L**	2.89	12.27	11.44	**18.70 H**	III
46	21	m	Somnolence	1st	17/11/08	61.37	3.82	9.08	10.46	15.27	I
47	27	m	Easy fatigue	1st	05/11/08	61.47	3.39	9.33	10.67	15.14	I
48	56	m	Chronic bronchitis, fainting episodes, stress	1st	15/12/08	58.69	2.61	11.22	10.09	17.38	I
49	66	m	High blood pressure	1st	20/11/08	60.59	3.5	10.95	11.85	13.11	I
50	62	m	Weakness	1st	18/11/08	**55.29 L**	2.52	9.86	12.54	**19.79 H**	III
51	35	m	Easy fatigue, severe stress, lower back pain	1st	15/11/08	**51.19 L**	3.16	**16.80 H**	12.90	15.95	III
52	32	m	Severe stress, easy fatigue	1st	17/06/08	**54.49 L**	2.29	11.48	9.40	**22.35 H**	III
53	82	m	Type II diabetes mellitus, operated colon Ca, cardiopulmonary	1st	29/10/08	**52.79 L**	2.68	12.15	13.51	**18.88 H**	III

			failure								
54	55	m	Severe stress	1st	06/05/08	56.11	3.44	12.20	11.65	16.60	I
55	53	m	Frequent upper respiratory tract infections	1st	10/09/08	59.20	2.41	11.37	9.80	17.21	I
56	52	m	Chronic prostatitis	1st	19/03/08	57.59	3.40	10.95	10.56	17.5	I
57	53	m	Thrombophlebitis, high blood pressure	1st	30/04/08	58.12	3.7	12.25	13.25	12.68	I
58	32	m	Depression, alcoholism	1st	11/04/08	57.72	2.44	8.65	11.75	**19.44 H**	II
59	23	m	Severe stress	1st	10/12/08	56.71	2.76	11.90	12.1	16.53	I
60	20	m	Weakness	1st	06/12/07	60.19	2.56	8.64	11.35	17.26	I
61	22	m	Periodic abdominal pain	1st	02/06/08	57.20	2.93	**7.78 L**	13.41	**18.68 H**	II
62	27	m	Lumbar herniated disk	1st	14/11/08	59.86	2.56	11.60	10.82	15.17	I
63	35	m	Severe stress	1st	04/07/08	57.77	2.80	10.53	10.96	17.93	I
64	14	m	Frequent infections following infectious mononucleosis	1st	31/10/08	**47.93 L**	4.47	**17.03 H**	12.32	18.26	III
65	20	m	Alcoholism, aggression, depression	1st	05/02/08	57.62	2.68	**8.09 L**	13.35	18.27	II
66	47	m	(Grade 3) breast Ca	1st	23/05/08	**52.28 L**	3.12	**12.56 H**	11.78	**20.25 H**	III
67	53	f	Parotitis mixed tumor,	1st	30/04/08	58.34	2.64	11.91	9.83	17.29	I

			severe stress								
68	75	f	Breast cysts – mastectomy	1st	12/11/08	56.43	3.87	11.30	13.51	14.89	I
69	57	m	Weakness	1st	27/10/08	62.12	2.85	12.43	12.01	**10.59 L**	II
70	53	m	Parotid Ca operated 6 years ago, severe stress	1st	05/02/08	61.31	2.79	10.75	13.44	11.72	I
71	25	f	Dysmenorrhea, hirsutism, severe stress	1st	22/12/08	58.47	3.85	12.42	10.87	14.38	I
72	45	f	High blood pressure, hair loss	1st	16/12/08	57.68	3.25	11.28	10.90	16.88	I
73	43	f	Psoriasis, severe stress, adynamia	1st	30/12/08	58.70	2.78	**7.72 L**	12.15	**18.64 H**	II

H=high, L=low

Table 5: The 3rd group of subjects: serum protein electrophoresis tests of severe pathologies with a good immune response.

SN	**Age**	**Sex**	**Condition**	**N° of proteinogram**	**Date**	**Albumins (%)**	**alpha1-globulins (%)**	**alpha2-globulins (%)**	**beta1+beta 2 globulins (%)**	**gamma-globulins (%)**	**Group**
74	62	m	Prostate gland and testicular Ca	1st	18/04/07	58.76	2.97	10.21	13.86	14.21	I
				2nd	26/11/07	60.88	3.98	10.27	13.80	**11.06 L**	II
75	49	f	Breast Ca	1st	18/12/08	58.71	3.33	10.90	10.31	16.75	I
76	68	f	Breast Ca with metastases	1st	10/09/08	55.90	3.14	17.28	11.34	12.34	I
77	71	m	Chronic renal failure (creatinine = 5.20 mg%)	1st	30/01/08	57.82	3.23	**6.92 L**	12.34	**19.69 H**	II

			death after three months								
78	68	f	Chronic renal failure (creatinine = 5.40 mg%)	1st	05/02/08	58.39	4.51	11.72	11.09	14.28	I
79	48	f	Uterine cervix cancer	1st	02/06/08	60.68	2.40	**6.36 L**	9.62	**20.94 H**	II
80	25	m	Within 2 years, loss of all body hair including that of the head, secondary to Cushing's syndrome	1st	10/11/08	58.49	2.55	12.20	13.60	13.17	I
81	47	f	Rheumatoid arthritis (ANA ↑↑) for the last five years	1st	18/11/08	58.30	3.23	12.13	13.71	12.62	I
82	67	f	Blepharoptosis, myoclonus of the left eye (tic)	1st	06/11/08	56.67	2.42	8.83	13.67	18.41	I
83	27	f	Myoclonus of the thorax for the last 4 years	1st	19/12/08	55.89	3.11	8.88	11.42	**20.70 H**	II
84	77	f	Cervical spine kyphosis, osteoarthritis	1st	29/10/08	56.63	2.74	11.08	13.77	15.78	I
85	19	f	Kyphosis in the last 3 years (orthosis)	1st	12/11/08	57.03	3.90	10.55	13.48	15.05	I

86	22	m	Spondylolisthesis (road accident)	1st	6/12/07	62.50	2.80	8.37	10.65	15.68	I
87	53	m	Transient lower limbs paralysis (1 month)	1st	30/01/08	59.78	2.94	11.13	12.88	13.27	I
88	42	m	Alcoholic neuropathy	1st	27/03/08	59.25	2.37	**13.14 H**	12.01	13.23	II
89	43	m	Frequent panic attacks	1st	17/12/08	61.13	2.70	8.93	10.97	16.27	I

H=high, L=low

Table 6: The 4th group of subjects: serum protein electrophoresis tests of puerperant.

SN	**Age**	**Sex**	**Condition**	**N° of proteinogram**	**Date**	**Albumins (%)**	**alpha1-globulins (%)**	**alpha2-globulins (%)**	**beta1+beta2 globulins (%)**	**gamma-globulins (%)**	**Group**
90	18	f	Normal vaginal delivery, 5 days postpartum	1st	16/01/08	**51.69 L**	**4.80 H**	**13.52 H**	**16.97 H**	13.02	III
91	19	f	Normal vaginal delivery, 7 days postpartum	1st	08/05/08	**50.86 L**	**4.71 H**	**13.15 H**	**17.41 H**	13.87	III
92	19	f	Normal vaginal delivery, 10 days postpartum	1st	05/11/08	**45.58 L**	**5.52 H**	11.33	**20.86 H**	16.73	III

H=high, L=low

The 5th group of subjects:

Table 7: *1st case*: subject with menstrual cycle disorders. Two consecutive normal serum protein electrophoretic patterns under homeopathic treatment and switch to

SN	Age	Sex	Condition	N° of proteinogram	Date	Albumins (%)	alpha1-globulins (%)	alpha2-globulins (%)	beta1+beta2 globulins (%)	gamma-globulins (%)	Group
93	23	f	Secondary amenorrhoea	1st	30/09/08	57.85	2.98	9.11	12.42	17.64	I
				2nd	21/10/08	56.17	3.25	8.20	13.84	18.53	
				3rd	19/11/08	63.82	4.18	14.63	9.48	**7.88 L**	II

abnormal after conventional treatment, intake of an hormonal preparation (progesterone).

H=high, L=low

Table 8: : *2nd case:* change in the electrophoretic patterns of a subject with high IgE levels, from abnormal to normal, following discontinuation of aspirin (acetylsalicylic acid).

SN	Age	Sex	Condition	N° of proteinogram	Date	Albumins (%)	alpha1-globulins (%)	alpha2-globulins (%)	beta1+beta2 globulins (%)	gamma-globulins (%)	Group
94	58	m	Prophylactic intake	1°	19/05/08	**54.59 L**	2.76	**13.62 H**	**14.27 H**	14.74	III
				2°	24/06/08	57.62	2.62	12.40	13.16	14.20	I

H=high, L=low

Results

1st group of subjects:

We observed that after homeopathic treatment, albumins were improved in most of the patients and the other fractions were reserved within normal. But in order to declare that this change is statistically significant a double-blind placebo trial is proposed. Also from the findings above we can assume that the method is non-toxic in the fractions of proteins.

2nd group of subjects:

Table 9: Correlation of "Health Levels" and findings in the serum protein electrophoresis.

Health levels (according to G. Vithoulkas)					**Findings in protein electrophoresis**	
	Conditions	**Homeopathic prognosis**	**Fever & infections**	**Potency & remedies**	**Albumins**	**Globulins**
Group I	**Mainly functional disorders** **Children's diseases**	**Mild therapeutic aggravation (deterioration)** **Can be cured directly**	**Infections are uncommon but with concomitant high fever** **Typical microorganisms**	**From 50 M to CM** **(1-2 remedies)**	**Within normal levels**	**Within normal levels**
Group II		**Strong initial therapeutic aggravation**	**More common serious acute infections (e.g. pneumonia)** **Viral infections and infections by microorganisms resistant to antibiotics**	**From 10 M to 1M** **(2-4 remedies)**	**Within normal levels**	**Some of them abnormal ↑ or ↓**
Group III	**More serious chronic degenerative diseases** **Autoimmune diseases and emotional disorders**	**Very strong initial therapeutic aggravation** **Reappearance of acute infection during treatment**	**Acute infections are not common** **Inability of the body to develop high fever**	**Up to 200 CH** **(4-7 remedies)**	**Abnormal ↑ or ↓**	**Normal or some of them abnormal ↑ or ↓**
Group IV	**Very serious chronic diseases affecting the immune system and the CNS** **Irreversible pathological lesions**	**No initial therapeutic aggravation** **Conditions incurable by homeopathy** **Only relief is possible**	**Total absence of acute infections and fever**	**From 30 CH to 6x** **(remedies are changed frequently)**	**Abnormal with a rapid decrease**	**Some of them abnormal ↑ or ↓**

Based on the electrophoretic patterns of research results and their correlation to the clinical picture according to the “Health Levels” by Vithoulkas, the following have been revealed, before and after the homeopathy stimulation.

In the first group, classification according Vithoulkas table, the patients basically appeared functional disorders. The clinical picture of the immune system was very good and the response to homeopathy stimulation was fast to result in therapeutic effect. Before and after the homeopathic treatment, normal proteinograms were observed and clean image of the medicine with very good prognosis for the patients’ progress under homeopathic treatment. (Note that in functional disorders normal electrophoretic patterns are observed and for the functional disorders responsible, is the glands and the autonomic nervous system [3]).

In the second group, classification according to Vithoulkas, patients were identified with limited functional lesions but clinically with a very good general condition of the immune system. Initially test showed albumin within normal limits and with some minor exceptions of pathological deviations of the globulins fractions (depending on the disease). In terms of Homeopathy, clear images of the homeopathy medicines were observed resulting to the patients’ cure.

In the third group, classification according to Vithoulkas, are patients with more severe disease, identified lesions but clinically moderate general condition of the immune system. Initially tests with abnormal albumins were measured (decline or increase) and some physiological or pathological globulins, depending on the condition, with a deterioration of values as long as the clinical condition appeared to be irreversible. From the homeopathic point seen, pictures of many remedies appeared. Homeopathy intervention seemed to the follow up, to "lock" temporally the evolution of the disease and even more to improve the clinical picture. The measurements of electrophoretic patterns after homeopathic treatment, showed some variations in final improvement to the fraction of albumins and balance in the fractions of globulins.

In the fourth group, classification according to Vithoulkas, patients appeared diseases with severe detected lesions but with an overall clinical image of weakened declining immune system. Initially patterns with abnormal albumins and globulins were measured. Also, abnormal patterns were measured in the final stages of life, which showed a rapid decline in albumins. From the homeopathic point, frequent changing images of multiple remedies occurred and the therapeutic effect of homeopathic intervention was of short period of time.

3rd group of subjects:

In this 3rd group, we observed that despite the serious disease of the patient, the test was normal or slightly abnormal, “health level” according to Vithoulkas I or II and very good response to homeopathic treatment. “The course of the health level and that of the disease are often not parallel. The patient's prognosis and the outgrowth of his/her disease depends on their health level”, as discussed in G. Vithoulkas' theory [2]. According to our research, the immune response is the latter that will have the "last word" regarding the positive or fatal outgrowth of the disease, along with the therapeutic interventional method.

4th group of subjects:

These tests show a drop in albumins and a rise in some globulin fractions (abnormal proteinogram under normal condition [3]). The electrophoretic pattern's physiology is restored in approximately eight weeks time. This group was included in our research material for speculation, because the fractions of globulins that appeared increased, finally it seems to play a key role in the resurgence of a normal pattern.

5th group of subjects:

Primarily, there are three serum protein electrophoretic patterns of a young lady (with menstrual cycle disorders), the first two of which, under homeopathic treatment, were within normal levels while the third one was abnormal (within a short period of time) *following intake of a hormonal pharmaceutical preparation* of progesterone prescribed by the subject's (conventional) endocrinologist. Secondly, there is a further set of two electrophoretic patterns; the health level between those two proteinograms changed significantly following *discontinuation* of aspirin ("The human body is much more prone to undergo derangement from the action of a medicine than from that of natural disease", as discussed by Hahnemann, §30 [4]).

Discussion

- **Decoding Hahnemann and similia similibus curentur**

We will dare to claim that homeopathic treatment owns its effectiveness on the method of preparation of homeopathic remedies. Samuel Hahnemann wrote that homeopathic remedies obtain their specific properties because they are grounded to numerous particles of matter due to the way they are processed, by shaking, friction, dilution, etc. (§269, [4]). Nowadays, with the help of quantum physics, we can second that with this preparation, the homeopathic remedies acquire properties of nanoparticles, which when acting upon biological tissues, stimulate them so as to activate the immune system.

At the level of nanoparticles and microparticles of the matter, the behavior observed is very different from that, that large masses of matter appear to have. The fields we refer to, are ***magnetic fields,*** which are created where a mass exists even minimal, in a rotating motion [8]. The properties arising are in connection with the phenomena of magnetization, magnetic resonance, magnetic anisotropy, the magnetic moment, the Zeeman's phenomenon (spectroscopy) and many others, that give an explanation in many natural and technical applications, such as the computer hard disk recording and the phenomena related to the behavior of the nervous system, memory and sensory organs. During the study of the Zeeman's phenomenon there is observed the analysis of "fine structure" and the revelation of the "hyperfine structure" of matter, which structures are analyzed to further microstructure only under specific conditions such as external magnetic field [8, 9]. As far as it concerns the hyperfine structure in particular, it is revealed only when external magnetic field is applied with the additional application of a particular frequency, unique to each stimulated nucleus, known as frequency Larmor. Frequency Larmor is also known as the frequency of transition or "resonance frequency", is proportional to the magnetic field, varies from core to core, obtains quantized values, causing the phenomenon of magnetic resonance to the tissue that stimulates the exchange of energy, reveals the hyperfine structure of matter as well as the degenerated energy states [10], which are recognized as "wrong" positions in space.

So the effect of the homeopathic remedy, according to our research, appears to act in the hyperfine structure of the matter which is revealed due to the magnetic field (which has been developed because of the special process, it has undergone) in coordination to the "similar" frequency that the structures need to be coordinated. After this "special" stimulation that is caused, degenerated energy structures of matter are disclosed, (which otherwise would not be separated and could not be perceived by the immune system as 'wrong' structures), and then the immune response processes are initiated, with the ultimately aim the restoral of the degenerated structures and the full cure of the organism. The homeopathic remedy appears to have the ability to stimulate on time, many "similar" degenerated structures, but the full process of the therapy depends on the condition of the patient's immune system, which should have the potential to manage and succeed homeostasis.

- **The acute reaction protein pattern and how the "artificial" acute disease is caused**

Proteins are a primary structural and functional component of cells and are the result of the expression of the genetic code. The chemical composition of the proteins is relatively simple, but their ability to retrieve specific three-dimensional structures, allows them to perform thousands of different functions, required for the overall functioning of all biological systems [11].

The serum proteins play a dominant role in the mechanisms of the immune system, as immunoglobulins, antibodies, complement, fibrinogen, lysozyme, interferons, phagocytosis, lytic molecules, cationic proteins, cytokines, growth factors, receptors, PRR recognition of natural immunity, receptors, BCR and TCR recognition of B- and T-lymphocytes, Major Histocompatibility Complex, molecules B7-1 and CD 80, B7-2 or CD 86, acute reaction proteins etc [5,6].

The acute reaction protein pattern is a condition of emergency for the organism. For this reason it is very important. The immune response, after an acute situation, activates a number of mechanisms that lead to the production and cooperation of variant inflammatory transmitters and also to changes in the metabolism of fats and carbohydrates. These reactions have the ultimate aim to activate the processes of the damage compensation as soon as possible, for the quicker return of the body function to normal [5,12]. During the acute reaction, substantial changes are made in blood proteins. Some fractions are those which are produced more and are known as “acute reaction proteins”. Quantitative changes of them in blood are a function of several parameters such as [6]:

1. Intensity and duration of the stimulus.

2. Type of invading antigen and

3. The immune state of the organism

Proteins have a three-dimensional structure in space, under certain circumstances this may change, resulting in the loss of their biochemical activity. That means their structure is open to deformation and unfolding of the chains, which do not alter the sequence of their amino acids (the primary structure does not change), the only that is changed is their structure in space [11]. This significant change in space, of the structure of protein, maintaining its primary structure is known as denaturation. When denaturation causes only the unfolding of the polypeptide chain, the situation is completely reversible. But if chemical changes occur in the side chains, protein polymerism, or changes in the disulfide bonds, then the denaturation is irreversible [11]. During denaturation characteristic biological, immunochemical and physicochemical modifications are induced in proteins such as modifications in their viscosity, their solubility and in the coefficients of diffusion and precipitation. Also, modifications are observed in their electrophoretic motility, biological activity, immunochemical behavior and in their emission spectrum [12].

These modifications of the structure of protein in space (deformation and unfolding, changes of the tertiary and secondary structure of protein) function like antigenic epitopes known as conformational or discontinuous epitopes, resulting the initiation of the immune response.

Each homeopathic remedy and each potency cause a different stimulation, to "similar" structures, lower or higher and a different analysis of the hyperfine structure. Thus reveal a different range of degenerated positions in proportion to the potency of the given remedy and so a different "acute disease" takes place each time. For this reason, the homeopathy stimulation and the effectiveness of the method depends essentially on the ability of the immune system to manage the size of the induced "acute" disease. (Therefore the adage ***curentur***, depends on the immune system).

- **Beside the determination of "health level" of the patient, abnormal deviation of the protein fractions can indicate serious pathologies, which the homeopath or other doctor must count in his treatment. Some of them are described below:**

Albumins [3]***:***

Their *increase* is very unusual in situations other than dehydration, but not rare, such as in lymphatic diseases such as multiple myeloma. The changes relate mostly to *reducing* them. Albumins in pregnancy are gradually reduced until delivery and return to normal levels after eight weeks. In infants their values reach the adult levels around the age of one year. Then they remain relatively stable to show a gradual decrease after the age of about 70 years. Malnutrition leads to depletion of albumin (lack of basic amino-acids or decreased production by the liver, etc.). Decreased albumins are found in synthesis failure diseases (e.g. liver diseases, etc), in chronic infections or chronic gruelling diseases (such as tuberculosis and cancer, etc.). Albumins may be directly lost from blood circulation in haemorrhages, burns, exudates or from the gastrointestinal tract in various malabsorption diseases. Significantly decreased albumins are observed in the nephrotic syndrome (direct loss in the urine). Furthermore, reduction of albumin may be due to genetic causes, as in the case of familial idiopathic dysproteinemia.

Globulins [3]***:***

1. Alpha1-globulins:

An *increase* of αlpha1-globulins is observed during pregnancy, during oestrogen administration and sometimes in tissue necrosis, neoplastic growths and infections.

An *absence or a near absence* of αlpha1-globulins is observed in cases of (homozygotic) α1-antitrypsin deficiency (hereditary disorder predisposing to emphysema).

2. Alpha2-globulins:

Alpha2-globulins are rarely *decreased,* while the decrease of some fractions is usually hide in the normal ranges of the proteinogram. For example, haptoglobulin drops in haemolytic anaemia and in severe liver diseases, while ceruloplasmin (cyanoplasmin) drops in Wilson's disease, etc.

An *increase* in alpha2-globulins with a concurrent albumin drop is also observed in various stress conditions, such as acute infections, lesions, injuries, burns, acute tissue necrosis (e.g. acute myocardial infarction, etc.), extended neoplastic growths or chronic diseases in elation. In the nephrotic syndrome, a manifest increase of alpha2-globulins is classically observed, which sometimes is combined with a beta-globulin surge while, at the same time, a large drop in albumins is noted. A small to moderate increase of alpha2-globulins is observed in some cases of hyperthyroidism, very advanced diabetes mellitus and adrenal failure.

3. Beta-globulins (β):

The *decrease* of beta-globulins is not very frequent. In cases of insufficient protein uptake, a transferrin drop is observed.

On the contrary, an *increase* of beta-globulins is observed in several conditions, such as the increase of transferrin in chronic sideropenia and in the 3rd trimester of gestation (which sometimes appears in the proteinogram in the form of a curve, i.e. a normal curve in comparison to the abnormal spike curve of multiple myeloma), in patients with increased cholesterol levels, in hypothyroidism, biliary cirrhosis, obstructive jaundice, nephrotic syndrome, in many cases of hepatitis, etc.

An increase of beta-globulins is frequently observed in cirrhosis, where sometimes it is accompanied by a gamma-globulin increase and sometimes the curves of beta- and gamma-globulins appear like a single curve with a concurrent progressive albumin drop as cirrhosis progresses. Usually, the increase of beta–globulins is observed in autoimmune diseases, complement changes, occurrence of cold agglutinins, isoagglutinins of the ABO blood group system, rheumatoid factor release, fibrinogen changes, IgM-immunoglobulin surge, etc.

4. Gamma-globulins (γ):

Gamma-globulins are involved in a large range of disorders.

A *decrease* of gamma-globulins is observed in primary and secondary hypo- and agammaglobulinemia. The secondary type can be observed in some cases of long-term treatment with steroids and immunosuppressants, in rapidly progressing infections, etc.

An *increase* of gamma-globulins is observed in several conditions. Almost all types of infections are accompanied by a gamma-globulin increase, without inducing a

change in the electrophoretic image, particularly if the infection is recent or mild. The electrophoretic increase of gamma-globulins is particularly observed in chronic infections (e.g. tuberculosis, etc.), in connective tissue diseases, (e.g. rheumatoid arthritis, lupus erythematosus, etc.), in allergic disorders, in sarcoidosis, syphilis, lymphogranuloma venereum, commonly in Hodgkin's disease, malignant lymphoma, chronic lymphogenic leukaemia, multiple myeloma (in which case the proteinogram presents a characteristic spike curve). Another category of diseases which cause an increase in gamma-globulins are hepatic diseases. Usually, but not always, in hepatitis a relatively small and distinct increase of beta- and gamma-globulins with progressive albumin drop is observed. In cirrhosis, usually a distinctively intense increase of gamma-globulins is observed with the typical cirrhosis picture of combined increased beta- and gamma-globulins (single curve on the proteinogram) and progressive albumin drop. In obstructive jaundice an increase of various degrees in αlpha2, beta- and gamma-globulins is frequently observed.

Conclusion

- The homeopathic remedy, according to our research, appears to act in the hyperfine structure of the matter which is revealed due to the magnetic field (which has been developed because of the special process, it has undergone) in coordination to the "similar" frequency that the structures need to be coordinated (magnetic resonance). After this "special" stimulation that is caused, degenerated energy structures of matter are disclosed, (which otherwise would not be separated), modifications of the structure of protein in space are occurred (which function like antigenic epitopes or else 'wrong' structures in space) and then the immune response processes are initiated, with the ultimately aim the restoral of the degenerated structures and the attainment of homeostasis of the organism.

  So we can conclude that the effectiveness of the homeopathic treatment depends on:
  - finding the "similar" medicine and the "appropriate" potency, to stimulate "same structure" and causing of the "artificial-acute disease" (similia-similibus).
  - and on the objective condition of the patient's immune system for the management of the induced "artificial-acute disease" (curentur).

- The clinical information of the situation of alertness of the patients' immune system classified as groups by Vithoulkas, justify the classification according to the electrophoretic pattern of proteins in the blood and thus table 9 can

be used by homeopaths in order to select the potencies of the remedies etc, in proportion to the results of the electrophoretic pattern of their patients.

The combining information from homeopathy and immunology and the addition of serum protein electrophoresis or other immunological tests, in the design of homeopathic or other treatment will broaden the range of future treatment through homeopathic methods and will contribute significantly to the safe handling of all regimens or their exclusion.

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Presentations

- The first publication of the research was in the Greek magazine "Homeo News", of the Greek Homeopathic Medicine Company -Iissue # 9, June-August 2008.
- The second publication was in the form of a poster at the 65th World Congress of Homeopathy, LMHI 2010, on 18-22 May in Redondo Beach, Los Angeles, California, United States entitled «Blood Protein Electrophoresis: immunological blood test in the planning of the homeopathic treatment».

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