

Volume: 2014

Number: 6



# ACUPUNCTURE and NATURAL MEDICINE



**MEDICAL SOCIETY OF  
NATURAL MEDICINE**

ISSN 1339-4703



# Acupuncture and Natural Medicine



## Editorial

Dear readers, supporters of acupuncture and natural medicine,

The last of this year's edition of the electronic journal Acupuncture and Natural Medicine is available here. The magazine was regularly, throughout the year, bringing you papers from the field of acupuncture and the interdisciplinary domains, quantity of interesting information along with materials for a professional discussion. The common denominator in all editions of this publication was an attempt of its contributors to understand universal laws of micro- and macrocosm from different angles. I see the uniqueness of this journal especially for the fact that, there are published papers from different fields of medicine along with papers from other scientific disciplines. Every reader may find here a piece of "mosaic", which can help him to more deeply understand the functioning of the universal principles and laws, not only in the specific field of reader's work or interest.

The presumption of complex patterns, system and the logic of pathologic findings in acupuncture, was expressed at the end of presented pilot study by the authors of the first paper of this edition – Horizontal relations of the pyramid model in acupuncture – Gustáv Solár, M.D., PhD, and Zlatica Solárová, M.P., PhD. The purpose of this paper was to analyze relationships of meridians of the horizontal level of the pyramidal model. Features and the relationships emerging from this pilot study confirm the need of interdisciplinary cooperation and a direct access of other scientific fields into the basic and applied research in acupuncture and natural medicine, along with the need of the professional discussion.

The author of the next paper – Teodor Mochnáč, M.D., PhD., analyzed the causes of acute and chronic pelvic pain from the clinical perspective as well as found interconnections with the projection of the acupuncture system of man. In the presented case reports, author points to the possibilities of solving the problem by acupuncture procedures. He emphasizes, that the issue of pelvic pain is also a matter of interdisciplinary considerations.

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# Acupuncture and Natural Medicine

The possibilities of the supportive treatment of the breast cancer by acupuncture was analyzed in an overview of realized clinical studies by the author of the interesting paper Acupuncture and the breast cancer – doc. J. Slobodníková, M.D., CSc., h. Prof.

Clinical conclusions from the use of larval therapy in the long-term treatment of non-healing wounds are presented with the visual documentation in the following paper about larval therapy by Marek Čambal, M.D., PhD., et al.

Interesting and enriching is the view and contribution of doc. RNDr. Miloslav Khun, CSc., that was about the geochemical factors of the environment in the relation to human health. The knowledge of geochemically conditioned causes of some diseases and the remediation of contaminated sites is in reference to this paper essential in disease prevention in the population.

I consider a great benefit an implementation of a chapter dealing with today's profoundly important topic, namely the ethics in natural medicine. Peter Sedlák, M.D., enriched us with his paper about the natural spirituality, wholeness and human health. Thinking about terms such as nature, spirituality, wholeness and health, the author gradually leads readers to conclude, that to understand, know and heal a person means to know the particular human being in the context of the universal wholeness.

The pioneer of acupuncture in Slovakia, Teodor Rosinský, M.D., CSc., with his consideration essay about acupuncture in

time and space- and beyond, surely comforted and enriched not just acupuncture-informed readers. In this paper, he looks for the contact area between non-time and non-space and acupuncture in its complex approach with the integration of the newest findings. He reminds of the most important message of the ancient masters and the traditional medicine, namely the concentration of attention to one's own thinking and by doing so the creation of precisely targeted information. The author also points to the need to look for, perceive and consider the results of research of other scientific fields, whether they come from the natural science or humanities.

In this context, dear readers, I believe that you, too, will find time in the following Christmas period, for reading the last of this year's edition of the journal and that each of you will find your own piece of "mosaic", that will move you on your journey of discovery.

To the journal, I wish in the new calendar year a lot of papers of quality, rich and fruitful professional debate, many satisfied readers and in response to yet realized acceptance by the ProQuest database, also the acceptance by other reputable scientific databases.

To you, dear readers, I wish Merry Christmas and a lot of family contentment and in the new year I wish you a plenty of health, force and success in the quest for knowledge.

**Dagmar Krausová, M.D.**

*President of Acupuncture Society of MSNM*





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# Iplikator

*Iplikator is designed for individual use. Its idea finds its roots in traditional Chinese medicine, and can be related to the practice of "MEI HUA CHENG" also known as "Peking Hammer". The iplikator brings relief to sufferers of joint, muscle and back pains, insomnia. It also enhances the body's regeneration and increases vitality. The iplikator releases the body's natural resistance to pain. The range of uses of the iplikator is vast, in both prevention and treatment.*

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*It is suitable accompaniment of range of physical therapy.*

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small linen regular iplikator

A1



small soft textile cotton iplikator

A2



knee joint soft textile cotton special iplikator

B4



small soft textile cotton iplikator for face

A6



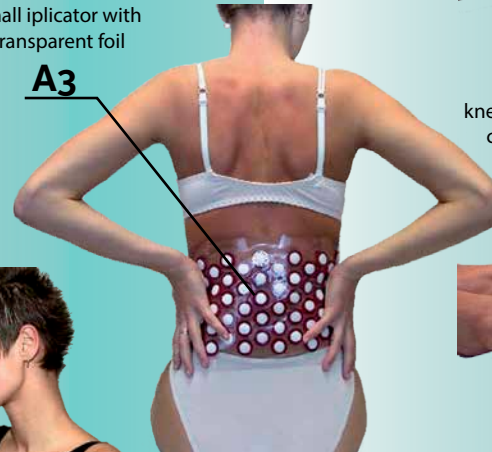
elbow joint regular soft textile cotton iplikator

B6



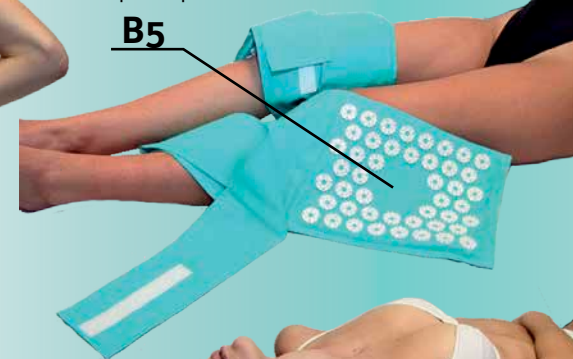
small iplikator with transparent foil

A3



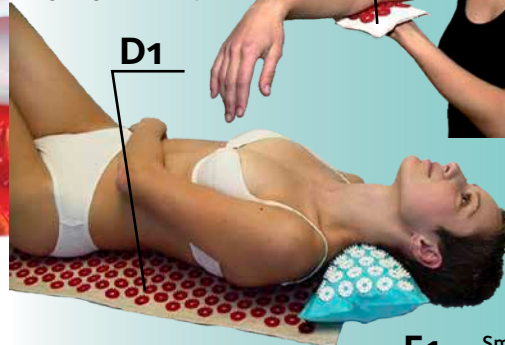
knee joint gentle soft textile cotton special iplikator

B5



large regular linen iplikator

D1

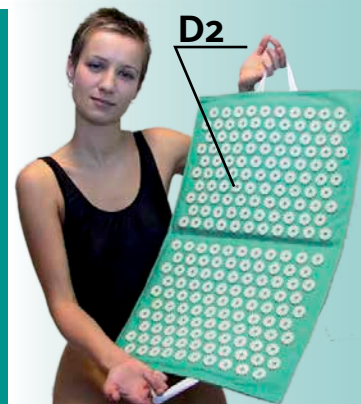


E1

Small textile cotton inflatable iplikator for cervical spinal area and lower back.

large soft folding textile cotton iplikator

D2



Large textile cotton inflatable iplikator

D5



large inflatable iplikator with transparent foil

C1



textile cotton pneumoipikator for lower back

D4

small inflatable iplikator with transparent foil for cervical spinal area

E2



large regular iplikator with transparent foil

D6



Small textile cotton inflatable iplikator for reflex zones of the feet and for increasing blood circulation

E5





## Horizontal relations of the pyramid model in acupuncture

Gustáv Solár, M. D., PhD., Zlatica Solárová, M. P., PhD.

### Summary

The complex dynamic pyramid model in acupuncture as presented in the 5/2014 issue of “Acupuncture and Natural Medicine” opens new possibilities not only in acupuncture. Particularly relevant are the questions pertaining to dynamics, relations and consequently the methodology of research, diagnostics and therapy. The authors of this article analyzed relations between meridians on the horizontal level of the pyramid model. The study proved a mutual connection of meridians through triplets. Triplets of the four pa-kua (Wen, Fu-Shi, S1 and S2) according to the magic square, triplets of the yang and yin concatenations and triplets of the circadian rhythm served as the necessary evidence to prove the mutual connections. A total of six systems of the TST methodology were included in the study. This is a pilot study analyzing only one level of the pyramid model. The results need to be verified by further studies. Relations on the vertical level will be discussed in the following study. The authors are introducing and defining “the yang and ying psycho-regulative concatenation”. Based on the current results it can be assumed that the acupuncture pathology has its own logic and relations, which has further consequences for the theory of acupuncture, the methodology of research, the accuracy of diagnostics in acupuncture and the method of therapy.

### Key words

system of acupuncture, complex dynamic pyramid model in acupuncture, triplets, yang and yin psycho-regulative concatenation

### Introduction

In the complex dynamic pyramid model in acupuncture, the interactions between meridians occur primarily on two levels – on the horizontal and the vertical level. These interactions have their regularities, some of them known, some not yet discovered. In general we may say that the interactions occur through triplets. A triplet is characterized by three phases – the initiation phase, the peak phase and the transitory phase. A meridian triplet consists of three meridians. In the circadian rhythm, the heart meridian (CO) peaks between 11.00 a.m. and 1.00 p.m. The pancreas and spleen meridian (LP) peak in the previous two-hour interval (09.00 a.m. and 11.00 a.m.). The small intestine meridian (IT) peaks in the following two-hour interval (1.00 p.m. and 3.00 p.m.). (Kočetkov, 2002) Therefore, we may say that the CO meridian is “born” in the LP meridian and after its peak phase transforms itself into the IT meridian. In this case the triplet of the CO meridian constitutes a sequence according to which it is initiated in the LP meridian and completed in the IT meridian. The triplet of the CO meridian in the circadian rhythm is described as an LP–CO–IT sequence. Analogically, the IT meridian is described as a CO–IT–VU sequence. All meridians of the circadian rhythm may be described in this way. A triplet means that the individual meridians do not alternate abruptly, but follow each other in a







gradual process of transition of one meridian into the following one. An analogical principle may be applied on the elements too. The sequences of meridian triplets described above are applicable in the circadian rhythm. The relations between meridians, however, are not governed by the circadian rhythm only, but also by other sequences in the various pa-kua (Wen, FS, S1, S2, etc.) (Solarova, 2014). Therefore, every meridian may be described by several triplets.

Triplets in this sense represent a physiological process of the dynamics of meridians and have their analogies in the biological sciences too. In acupuncture they form the basis of the energy-informative networks (Table 1).

Table 1 Triplets of meridians in the Wen, Fu-Shi, S1 and S2 pa-kua according to the magic square, yin and yang concatenation (CON) and the circadian rhythm (CRD).

**Tab. 1.** Triplets of meridians in the Wen, Fu-Shi, S1 and S2 pa-kua according to the magic square, yin and yang concatenation (CON) and the circadian rhythm (CRD).

Merid.	Character	Y/J	WEN	FU-SI	S1	S2	CON	CDR
IT k (VU)	Unity in diversity	Yang	LP-IT-PE	PU-IT-PE	VF-IT-PE	PE-IT-VU	VU-IT-VF	CO-IT-VU
VU v (IT)	Orientation	Yang	PU-VU-RE	PE-VU-TC	PE-VU-PU	IT-VU-LP	RE-VU-IT	IT-VU-RE
RE z (PU)	Relation-ships	Yang	VU-RE-TC	LP-RE-VF	PU-RE-LP	LP-RE-TC	VF-RE-VU	VU-RE-PE
PE z (LP)	Self-love Forgiveness	Yin	IT-PE-PU	IT-PE-VU	IT-PE-VU	PU-PE-IT	TC-PE-LP	RE-PE-TC
TC d (VF)	Universal love Balance	Yin	RE-TC-VF	VU-TC-LP	LP-TC-VF	RE-TC-VF	PU-TC-PE	PE-TC-VF
VF d (TC)	Decisiveness	Yang	TC-VF-LP	RE-VF-PU	TC-VF-IT	TC-VF-PU	IT-VF-RE	TC-VF-HE
PU o (LP)	Limitation	Yin	PE-PU-VU	VF-PU-IT	VU-PU-RE	VF-PU-PE	LP-PU-TC	HE-PU-IC
LP k (PE)	Self-control	Yin	VF-LP-IT	TC-LP-RE	RE-LP-TC	VU-LP-RE	PE-LP-PU	VE-LP-CO

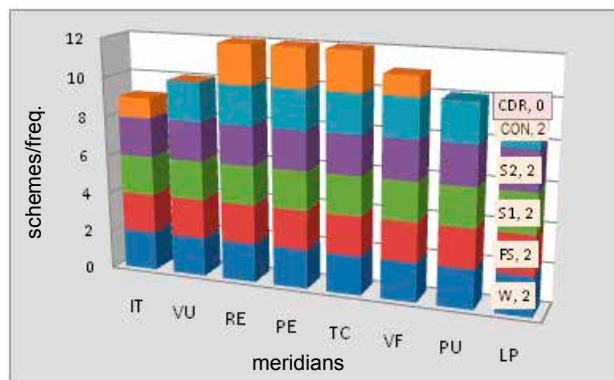
Meridians – CO (cor), IT (intestinum tenue), VU (vesica urinaria), RE (ren), PE (pericardium), TC (tri calorium), VF (vesica fellea), HE (hepar), PU (pulmo), IC (intestinum crasum), LP (lien pancreas), systems: W-Wen, FS – Fu-Shi, S1 – S1 pa-kua, S2 – S2 pa-kua according to the magic square, CON – triplets of the yin and yang concatenation, CRD – circadian rhythm.

On the horizontal level of the pyramid (as described in the previous issue) there are eight meridians whose mutual interactions occur dominantly in accordance with the sequence of the “nine palaces” or the so-called “magic square” in the Wen, Fu-Shi, S1 and S2 pa-kua systems. In other systems the interactions occur according to different regularities (Solár 2014). They are also governed by the rules of the yang

and yin concatenations as well as the rule of the pa-kua Universal which is described in the pyramid model (Solár 2014).

The incidence of the individual meridians in triplets in the systems of Wen, Fu-Shi, S1, and S2 pa-kua is homogenous. The differences lie in the CON and CRD systems (Figure 1). Considering the structural difference of these systems it is expectable.





**Fig. 1.** The incidence of the number of meridians in the systems of pa-kua W, FS, S1, S2 according to the magic square, the yin yang concatenation (CON) and the circadian rhythm (CRD)

Meridians – IT (intestinum tenue), VU (vesica urinaria), RE (ren), PE (pericard), TC (tri calorium), VF (vesica fellea), PU (pulmo), LP (lien pancreas), systems: W – Wen, FS – Fu-Shi, S1 – S1 pa-kua, S2 – S2 pa-kua according to the magic square, CON – triplets of the yin and yang concatenation, CRD – circadian rhythm

Beside the described sequences there are other sequences too. We may therefore speak about complex and multi-level relations. In this part of the energy-informative network all the meridians are functionally interconnected through triplets and not only on the horizontal level of the pyramid model. Several methodological, theoretical as well as philosophical questions arise, which need to be answered.

## Goals

The goal of this pilot study was to analyze the mutual relations of meridians on the horizontal level of the pyramid model and to verify the postulated hypotheses on a selected group of patients.

## Hypothesis 1

*Six systems of meridian arrangement will suffice to describe all the potential possibilities of the triplet creation on the horizontal level. They are*

*the four systems of the basic pa-kua arrangement (Wen, Fu-Shi, S1 and S2), the system of meridian arrangement according to the circadian rhythm and the system of meridian arrangement according to the yin and yang concatenation.*

## Bases of the hypothesis

- All the meridians on the horizontal level are mutually connected in the four systems (Wen, Fu-Shi, S1 and S2) of the pa-kua arrangement according to the magic square.
- The second variation of the meridian arrangement is according to the circadian rhythm (CRD), which refers to the relation between meridians and time periods.
- The third variation of the meridian arrangement into triplets according to the yin and yang concatenation (CON) refers to the yang and yin regularities.
- All three variations occur simultaneously and are mutually compatible.

## Hypothesis 2

*All the current findings of the meridian disbalances in one examined person (positive findings) are mutually connected through triplets.*

## Bases of the hypothesis

- The mutual relations among meridians within the energy-informative network are arranged through triplets.
- The disbalances of the individual meridians develop within the energy-informative network in compliance with the triplet arrangement. Hence, even a small number of findings in one person complies with the triplets.
- A disbalance in each of the examined TST systems is not necessary (e.g. OES, RMTTr etc.) for the purpose of determining the relations.





### Hypothesis 3

*In the pa-kua Universal arrangement there exist non-local quantum relations.*

#### Bases of the hypothesis

- In the pa-kua Universal arrangement, all four meridians of the yang concatenation are in the positions 2, 3, 5 and 8, and the four meridians of the yin concatenation are in the positions 1, 4, 6, and 7. Hence, each meridian occurs simultaneously in four positions of the pa-kua arrangement.
- Such arrangement may only be potential because in every basic pa-kua each meridian occurs only in one position. Thus, in the universal arrangement we are able to determine either the position in which a certain meridian currently occurs or which meridian's disbalance is currently decisive. The choice is always made by the examiner who opts for one of the basic pa-kua, which he or she uses to interpret the findings.
- What remains open is the question of the morphic fields in these processes.

### Hypothesis 4

*The yang and yin concatenation has its psycho-regulative correlate*

#### Bases of the hypothesis

- Analogically to yang and yin concatenation in the pa-kua Universal arrangement on the somatic level, there are also psycho-regulative concatenations. It is an arrangement of the psycho-regulative correlate of meridians according to yang and yin concatenation. The quantum relations are also applicable here.

### Material and methodology

The authors assessed regular outpatient findings gained in a routine TST examination

(Tactile Solar Test). These were randomly selected outpatient examinations. We analyzed relations among triplets (the Wen, Fu-Shi, S1, and S2 pa-kua according to the magic square, yang and yin concatenations and triplets according to circadian rhythm) in correlation to clinical findings.

#### Characteristics of the examined group

The group consisted of 40 patients at the average age of 43,4 years (in the range of 14 to 72), of which 32 patients were women at the average age of 43,0 (from 14 to 66) and 8 were men at the average age of 44,6 (from 29 to 72). The patients were examined within the period of eight weeks (from September through October 2014), of which 22 patients were examined repeatedly (19 women and 3 men). With each patient no more than two consecutive examinations were assessed. Repeated examinations of one and the same patient had two objectives. The first objective was to verify whether two findings gained in a several days' interval with a various number of disbalanced meridians would have the same logic, i.e. whether they would be connected via triplets. The second objective was to extend the number of assessed examinations so that this study would not monitor only one examination per patient.

A total of 62 examinations were assessed. The diagnostic composition may be evaluated as a "pseudocivilization polymorbidity" in the ordinary course of the acupuncture practice as patients gradually came for their examinations.

We assessed the findings of the classic TST made by a test probe:

1. OES (overall energy-informational status)
2. TDR (transdimensional rotary microsystems)
3. RMTr. (rotary microsystem of the tragi)
4. RMM dx (rotary microsystem of the breast dx)





5. RMM sin (rotary microsystem of the breast sin)
6. RM Yin – (yin rotations)

With the names of meridians we are using the Latin/Greek nomenclature similarly as in the previous issues to make the terminology accessible and understandable in every language.

## Results

The mutual connections between triplets in one examination were analyzed with the help of comparative tables (Table 1, 2).

Table 1 (cf. Introduction, Table 1) shows the possibilities of mutual connection between meridians on the horizontal level. Its structure is based on the relations of the four basic pa-kua (W, FS, S1, S2 in short), the yin and yang concatenation (Z) and the circadian rhythm (CRD).

**Tab. 2.** The mutual connections of meridians through pa-kua W, FS, S1, S2, yin and yang concatenation (abbr. C) and circadian rhythm (CRD).

	IT	VU	RE	PE	TC	VF	PU	LP
IT	x	S2 Z CDR	x	W FS S1 S2	x	S1 Z	FS	W
VU	S2 Z	x	W Z	FS S1	FS	x	W S1	S2
RE	nie je	W Z CDR	x	CDR	W S2	FS Z	S1	FS S2 S1
PE	W FS S1 S2	FS S1	CDR	x	Z CDR	x	W S2	Z
TC	x	FS	W S2	Z CDR	x	W S1 S2 CDR	Z	FS S1
VF	S1 Z	x	FS Z	x	W S1 S2 CDR	x	FS	W S2
PU	FS	W S1	S1	W S2	Z	FS S2	x	Z
LP	W	S2	FS S1 S2	Z	FS	W S1	Z	x

x = an empty field, no connection formed, red field = yang concatenation, grey field = yin concatenation

Hypothesis 1, which assumed that all findings in one patient are mutually interconnected through triplets in the Wen, Fu-Shi, S1 and S2 pa-kua systems according to the magic square, the yang and yin concatenation and CRD, was proved in all 62 examinations, i.e. in 100 % cases.

Figure 2 illustrates the spread of disbalances in the individual meridians arranged according to yang and yin concatenation. Disbalances in the yang concatenation are more frequent and their spread is considerably more even than in the yin concatenation. In the first place of the incidence rate of the disbalances is the bladder

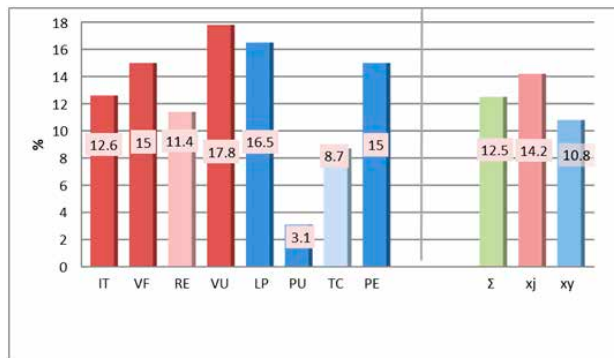
meridian (VU), which manifests itself through the vertebrogenic and myofascial symptoms. Within its “competence” falls the rational level. On the psycho-regulative level occurs a symbolic verticalization (maturation) and orientation, i.e. incessant and dynamic maintenance of the optimal lifeline. Besides, this is the only meridian that belongs to both the horizontal and vertical level of the pyramid model.

A disbalance in the PU meridian in the assessed sample is very rare, therefore, it would be too early to analyze it. Considering the higher dynamics of the yang, a higher number of disbalances in this concatenation is expectable.





The right side of the table also illustrates the potential spread of disbalances in pa-kua Universal.



**Fig. 2.** The spread of disbalances in the yang and yin concatenations

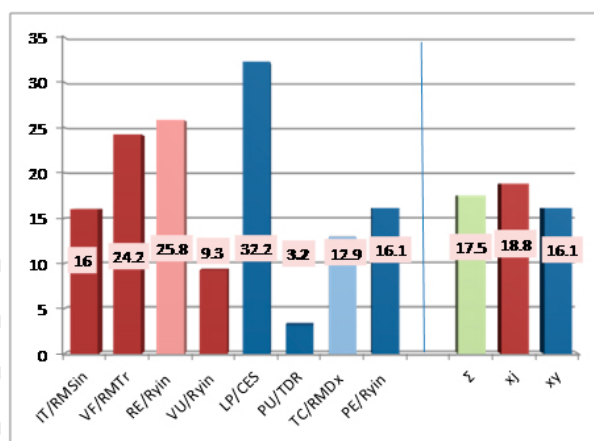
Σ = arithmetic mean of the yang and yin meridians,  
xj = arithmetic mean of the yang meridians IT, VU, RE, PE,  
xy = arithmetic mean of the yin meridians LP, PU, TC, PE

Figure 3 illustrates the maximal incidence of disbalances of individual meridians in the TST systems. Let us discuss the maximum incidence of disbalances in the spleen and pancreas meridian (LP) in the overall energetic status (OES) and the small incidence of the lung meridian (PU) in transdimensional rotations (TDR). In the OES of the given sample, the LP meridian is the most frequently occurring meridian. This meridian is relevant for the metabolism of carbohydrates, i.e. the energetic metabolism. The carbohydrates form a significant part of the DNA structure, i.e. they relate to the information processes. On the psycho-regulative level the LP is characterized mainly by self-control.

We may assume that the VU meridian is equally spread in the TST systems as illustrated by its high incidence in figure 2. In the yin rotation microsystem, its occurrence in percentage

in relation to other meridians is rather low (Figure 3). The right side of the table illustrates also the potential spread of disbalances in the pa-kua Universal (analogically as in Figure 2).

Considering the diagnostic “pseudocivilization polymorbidity”, it is no surprise that the VU and LP have the highest incidence of findings, mainly when we take into account their somatic and psycho-regulative characteristics.



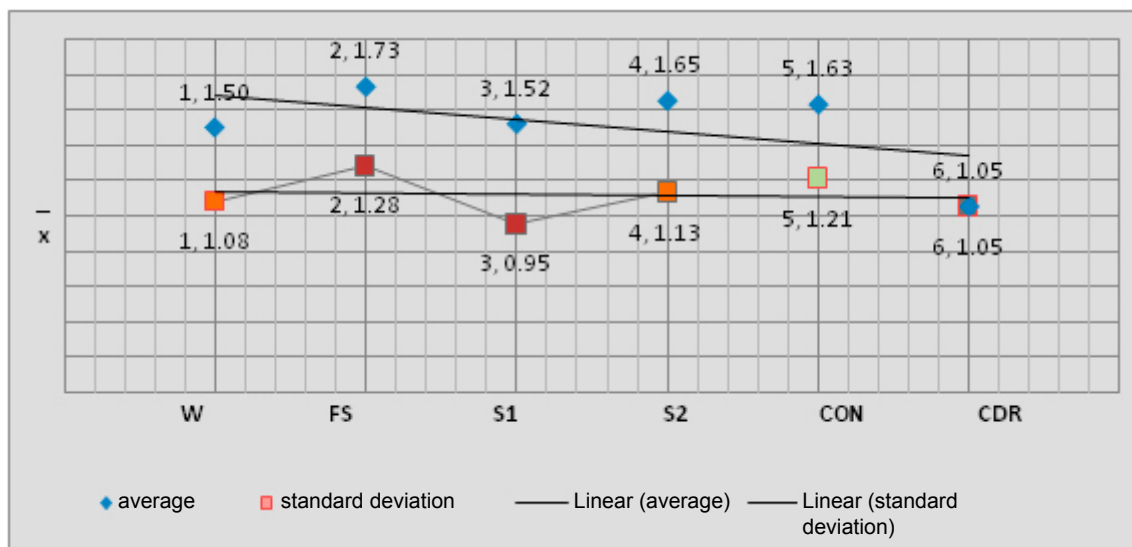
**Fig. 3.** The spread of disbalances of meridians in the TST systems

Σ = arithmetic mean of the yang and yin meridians,  
xj = arithmetic mean of the yang meridians IT, VU, RE, PE,  
xy = arithmetic mean of the yin meridians LP, PU, TC, PE

Figure 4 shows the spread and frequency of findings in the Wen, Fu-Shi, S1 and S2 pa-kua, the CON and CRD arrangement. The upper curve indicates the arithmetic mean and the lower curve indicates the standard deviation. The graph of the standard deviation shows an inverse correlation of the FS pa-kua and also of the W and S2 pa-kua. It shows the mutual relations of pa-kuas in the examined sample, but an attempt at a more generalized conclusion would be too early.





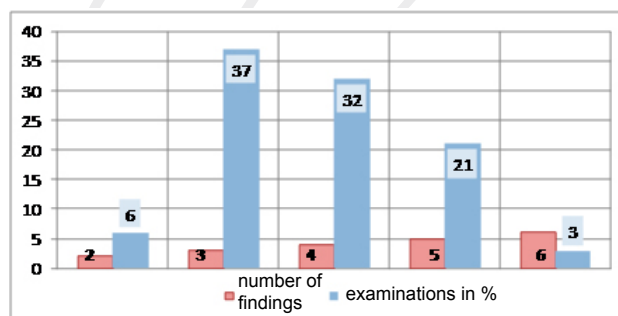


**Fig. 4.** The spread and frequency of findings in the W, FS, S1, S2, CON and CRD systems

In the examined sample in the Wen, Fu-Shi, S1, S2, CON (ZRE on the figure) and CRD systems the highest number of patients were those with one or two findings (Figure 4).

Figure 5 illustrates the spread of the pathological and disbalanced findings in the examined sample.

To detect the correlation between the meridians and the Wen, FS, S1, S2 systems, yin and yang concatenations and the circadian rhythm we used Spearman's rank-order (nonparametric) coefficient of correlation (Table 3, Figure 6).



**Fig. 5.** The spread of the pathological findings in percentages

6 % of examinations (4 females and 1 male) – two findings  
37 % of examinations (of which 4 were males) – three findings  
32 % of examinations (of which 1 was a male) – four findings  
21 % of examinations (of which 2 were males) – five findings  
3 % of examinations (only females) – six findings  
the number of patients with a full number of disbalances – 3.2 %

**Tab. 3.** The correlation between meridians and the W, FS, S1, S2, CON and CRD systems

Correlation Coefficient

	Spearman's rho					
	W	FS	S1	S2	CON	CDR
IT	,33**	,16	,26*	,47**	,32*	,35**
VF	,29*	,18	,47**	,03	,19	,08
RE	,30*	,33**	,27*	,15	,17	,23
VU	,16	,27*	,04	,46**	,39**	,36**
LP	,12	,07	-,02	,17	-,05	-,28*
PU	,14	,04	,07	-,02	-,02	-,13
TC	,40**	,37**	-,04	,23	,33**	,25*
PE	-,04	,15	,13	,09	,11	,24

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).





The table shows that:

The highest incidence of disbalanced findings with a statistical relevance occurs on the meridian of

- (IT) small intestine and (VU) bladder in the S2 pa-kua system (via PE–IT–VU and IT–VU–LP triplets)
- (VF) gall-bladder in the S1 pa-kua system (via TC–VF–IT triplet)
- (TC) triple heater in the Wen pa-kua system (via RE–TC–VF triplet)

A significant finding of disbalance occurs on the meridian of

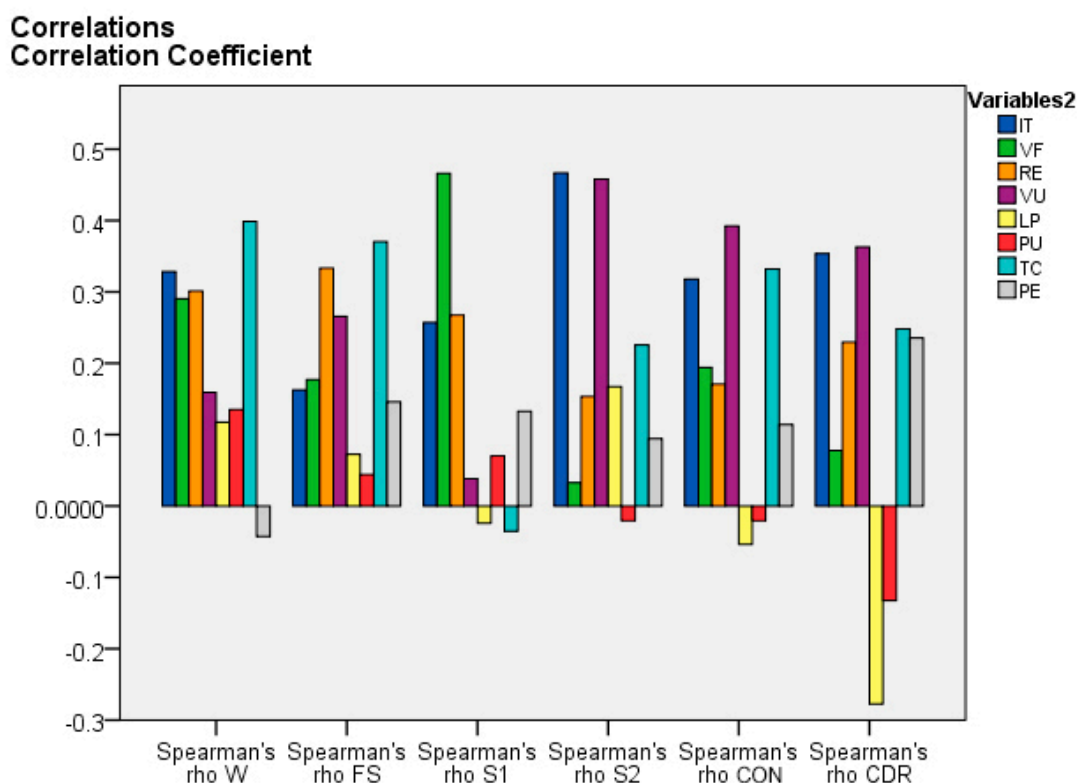
- VU (bladder) in the CON, CRD and FS pa-kua arrangement systems

- IT (small intestine) in the CON, CRD and S1 and Wen pa-kua arrangement systems
- TC triple heater in the CON, CRD and FS and Wen pa-kua arrangement systems

Such spread attests to a various “potency” of the individual meridians in the various arrangements of pa-kua systems. In the pa-kua Universal arrangement it proves the influence of the quantum relations because the “potency” of one and the same meridian in different systems differs and it cannot be determined from its location in the pa-kua Universal.

The significant influence of the IT, VU, VF and TC meridians on the horizontal level must be assessed in relation to the vertical level.

Figure 6 illustrates the spread of the incidence of pathological/disbalanced findings.



**Fig. 6.** Correlation between the meridians and W, FS, S1, S2, CON and CRD systems





In over 95 % of cases triplets in the four pa-kuas (W, FS, S1, S2) according to the magic square were sufficient to make an assessment. In case of two male patients it was necessary to consider also triplets of the yang and yin concatenation and in case of one female patient an additional evaluation of the CRD (circadian rhythm) was needed. In all cases only one examination was assessed. Considering the small sample of results, statistically and methodically, it would be incorrect to assess the correlation of the first and second examinations in these patients.

The gained results fully proved the mutual interconnection of the pathological findings through triplets on the horizontal level of the pyramid model.

Despite the fact that all six TST (Tactile Solar Test) systems were examined in all patients, pathological or disbalanced findings were not found in all patients. Thus, a mutual interconnection via triplets was proved even in a small number of disbalanced meridians, which means that even pathology in acupuncture has its logic and triplet regularities.

In the yang and yin concatenations on the somatic level it is either the yin or the yang that has a dominant position, while all the characteristics of meridians of the corresponding concatenation are present too. The same applies to the psycho-regulative level with the psycho-regulative correlate forming analogical concatenations. The yang psycho-regulative concatenation is characterized by the unity in diversity, orientation, relationships and decisiveness, i.e. the yang psycho-regulative attributes. The yin psycho-regulative concatenation is characterized by the ability of self-love and self-forgiveness, balance and universal love, self-limitation and self-control, i.e. the yin psycho-regulative attributes. These concatenations similarly as the somatic ones are equally relevant for the vertical level.

## Discussion

We have not found any mention of the complex pyramid model in acupuncture nor the relating triplets anywhere in the available literature. The only reference we came across was our article published in the 5/2014 issue of “Acupuncture and natural medicine” where this model was first presented. Therefore, a responsible analysis and assessment of the results is a necessity. It should be noticed that only the relations of one of two levels of the pyramid model are being assessed.

The basic prerequisite for the study of these complex issues is the utilization of the TST method (Tactile Solar Test) (Mochnáč 2014). Neither the traditional nor the current diagnostic methods recognize the yang and yin concatenations, the S1 and S2 pa-kuas, Universal or the complex pyramid model. Therefore, they cannot offer a more detailed differentiation of results in the corresponding systems or an analysis of the mutual relations. But that is exactly what is needed for an exact, complex and reproducible diagnostics. This is just a pilot study, therefore, the interpretation of its results has the same character. Nonetheless, the results point out several significant facts and relations.

On the somatic level we may identify either a dominant yang or a dominant yin image. Similarly, on the psycho-regulative level we may postulate a dominant yin psycho-regulative concatenation with the ability of universal, all-encompassing love as well as the ability to love oneself in a healthy way, the ability to forgive oneself, the ability of self-control and the relating ability to limit oneself, and thus to understand oneself. These are the so-called stabilizing yin characteristics, which cannot be separated from each other. On the other hand the yang dynamizing psycho-regulative concatenation includes relationships, decisiveness and the assessment of actions in





relation to understanding the unity in diversity and the relating one's own incessant orientation. It is generally known that meridians have their own psycho-regulative correlate. This knowledge comes from the traditional Chinese medicine (Beinfeld et al. 1992, Kočetkov, 2002). In the concatenations that we constructed we used the psycho-regulative characteristics according to Silva (2003). Quite pragmatically, the incidence of one of the mentioned characteristics is necessarily connected with other characteristic features of the corresponding concatenation. That is one of the elementary attributes of a complex diagnostics and therapy.

The homogenous spread of the individual meridians in triplets is an important discovery. This "physiological" and ideal state represents a standard for a comparison or an analogy of "a control group". From the methodological point of view it is very probable that such homogenous and consistent standards are more suitable in acupuncture and can meet the scientific criteria of comparative studies better than the permanently non-homogenous and inconsistent control groups of patients or the absurd construction of the so-called placebo acupuncture (in the era of quantum physics and biology). If we accept the uniqueness of every individual, then the concept of a homogenous control group is more of a theoretical construct than a reality. Thus, we may postulate that comparisons with the mathematical and statistical standards present a methodically acceptable and precise alternative in the acupuncture research, and meet the criteria of the evidence-based medicine (EBM).

A generally small incidence of disbalances in the lung meridian (PU) manifests fully in the TDR system (transdimensional rotary microsystem). On the somatic level it enables mainly the reception of chi from the air and prompts the related breathing disorders and allergies. A psycho-regulative manifestation of the PU

meridian is the "limitation" (Silva 2003) and the outer space, i.e. the differentiation between one's own and some else's competences and the determination of SELF in a multidimensional understanding. In this sense its occurrence in the TDR is not surprising. The category of space itself is related to the multidimensional understanding of this phenomenon.

We assessed meridians according to the corresponding systems of the pa-kua arrangement. In the description of the findings we have preferred the pa-kua according to Wen in accordance with the established and more or less generally accepted practice. However, that is just one of the possible options that the examiner has. All four systems of pa-kua (Wen, Fu-Shi, S1 and S2) together form the pa-kua Universal, which consists of four yang (positions 2, 3, 5, and 8) and four yin concatenations (positions 1, 4, 6 and 7). Since all four pa-kuas rotate simultaneously, the pa-kua Universal positions are locations where all yang or yin meridians potentially occur at the same time. That means that it is exclusively up to the examiner which way of assessing the meridian he or she opts for. Thus, even if it is clinically relevant, the present assessment is undermined, at least methodically. On the one hand four examiners examining the same patient will arrive at four different conclusions, assuming that each of them will assess the findings according to a different pa-kua. On the other hand, all four of them will be right. The problem is that e.g. the IT meridian can potentially occur on all four yang positions. Therefore, we are able to determine its position only potentially. But we do not know where exactly it peaks (where it has the highest "potency"), which we are able to predict only potentially. These are non-local phenomena, which, it seems, are typical also for the living organisms. What remains open is the function and effect of the morphic fields in these





processes and the influence of the examiner (Sheldrake 1990). Here, medicine functions only as a consultant and a clinical experimenter and it is the quantum physics and quantum biology that take over the leading position. Without their close cooperation and a general interdisciplinary cooperation we cannot overcome the limitations of our own determination. The fact that acupuncture is one of the first disciplines to stumble on these boundaries is not a handicap, but a plus. We should ask ourselves whether there exists a medical solution to the assessment according to pa-kua Universal. Every experienced doctor knows that it is not possible to take any piece of knowledge out of context and assess it on its own. This is all the more true for an experienced and educated acupuncturist and the use of the TST sets him on the right path. On the other hand further TST methods as well as further examinations offer enough possibilities to specify the dominant disorder on one of the meridians. In this aspect the results of this study are reliable too. The benefits of the quantum physics as well as the quantum biology will without doubt be significant, but in the everyday routine practice this outlook remains a question of the future.

## Conclusion

All four postulated hypotheses were proved.

The presented pilot study proved that the mutual relations of meridians on the horizontal level of the pyramid model are arranged according to triplets. The same arrangement is equally applicable to the positive findings in the TST methodology. Hence, we may assume that even pathology in acupuncture has its system, logic and complex regularities. The verification of this assumption exceeds the possibilities of both acupuncture and natural medicine. Another assumption arising from this study is the presence and the significant influence

of the quantum phenomena and relations in the system of acupuncture. However, their study requires an interdisciplinary cooperation and a direct presence of the quantum physics, quantum as well as molecular biology and other scientific fields in the elementary and applied research of acupuncture and natural medicine. Also this study proves a significant role of the pyramid model for a further development of the acupuncture theory, methodology, research, diagnostics, therapy and prevention.

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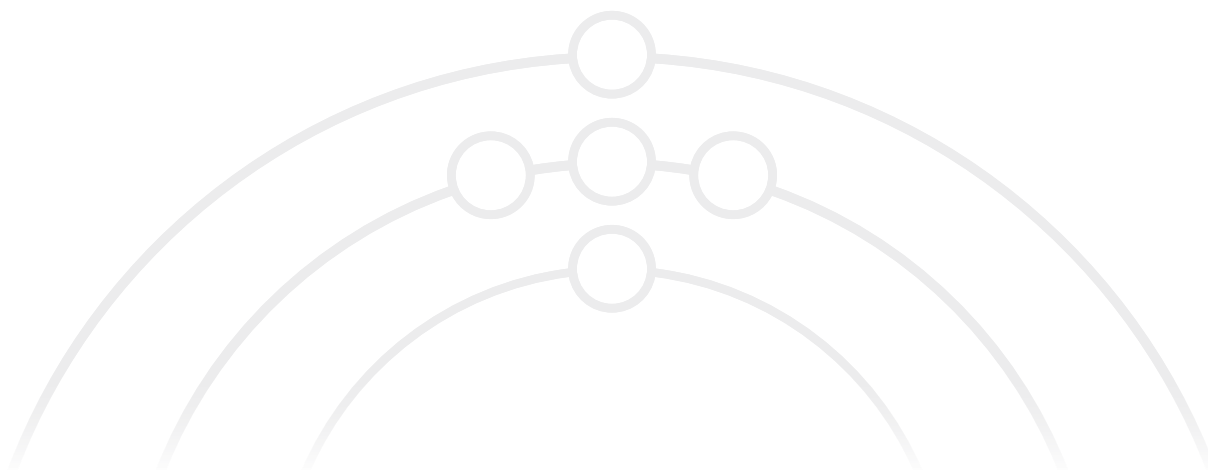
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## Pelvic pain and acupuncture in the surgical clinic

Teodor Mochnáč, M. D., PhD.

### Abstract

Acute and chronic pelvic

pain is a general descriptive term for the difficulties associated with pain in the pelvic area. It represents an undiagnosed clinical unit.

The author discusses in his article the reasons for such states as well as the causes of such pain; he also emphasizes the relation between the projection of the acupuncture system and the possibilities of the acupuncture treatment.

### Keywords

pelvic pain, acupuncture projection, acupuncture treatment

Acute or chronic lower abdominal pain is a common problem in general, gynaecological, urological, surgical, neurological as well as acupuncture clinics. They are responsible for different clinical units defined according to the international classification of diseases. A doctor is always facing the differential diagnostic problem. A patient manifesting with acute pelvic pain, however, needs an urgent solution, and therefore the diagnosis must be determined within a short time.<sup>(7)</sup>

The patient with chronic pain travels from doctor to doctor, not counting the kilometres or time that may take months even years, often ends up visiting various healers, or in better case in the acupuncture clinic. Patient's state also requires a diagnosis that is time-consuming and economically costly.

There is a number of classifications developed for the differential diagnosis of pelvic pain.

The table below shows the classification of acute as well as chronic pelvic pain.

**Tab. 1.** Differential diagnosis of acute lower abdominal pain

Differential diagnosis of acute lower abdominal pain
<b>1. Concerning pregnancy</b>
<ul style="list-style-type: none"><li>– Spontaneous abortion</li><li>– Imminent abortion</li><li>– Complete abortion</li><li>– Incomplete abortion</li><li>– Septic abortion</li><li>– Ectopic pregnancy</li></ul>
<b>2. Gynaecological infections</b>
<ul style="list-style-type: none"><li>– Endometritis</li><li>– Salpingitis</li><li>– Pelvic inflammatory disease</li><li>– Tubo-ovarian abscess</li></ul>
<b>3. Gynaecological non-infectious diseases</b>
<ul style="list-style-type: none"><li>– Dysmenorrhea</li><li>– Endometriosis</li><li>– The ovulation pain</li><li>– Ovarian cysts</li><li>– Haemorrhage</li><li>– Torsion</li><li>– Ovarian tumours</li><li>– Ovarian hyperstimulation syndrome</li><li>– Ruptures</li></ul>
<b>4. GIT</b>
<ul style="list-style-type: none"><li>– Appendicitis</li><li>– Gastroenteritis</li><li>– Diverticulitis</li><li>– Irritable bowel syndrome</li><li>– Ileus</li><li>– Mesenteric lymphadenitis</li><li>– Constipation</li><li>– Adhesion</li></ul>
<b>5. The urinary tract</b>
<ul style="list-style-type: none"><li>– Cystitis</li><li>– Interstitial cystitis</li><li>– Pyelonephritis</li><li>– Nephrolithiasis</li></ul>





Differential diagnosis of acute lower abdominal pain
<b>6. The musculoskeletal symptomology</b>
<ul style="list-style-type: none"><li>– Muscle tension</li><li>– Infection of the joints</li><li>– Intervertebral herniation</li><li>– Vascular disease</li><li>– Aortic aneurysm</li><li>– Aortic dissection</li><li>– Porphyria</li></ul>

**Tab. 2.** Classification of chronic pelvic pain syndromes

Classification of chronic pelvic pain syndromes
<b>1. Urological causes</b>
<ul style="list-style-type: none"><li>– Infectious cystitis</li><li>– Infectious prostatitis</li><li>– Infectious urethritis</li><li>– Infectious epididymo-orchitis</li></ul>
<b>2. Gynaecological</b>
<ul style="list-style-type: none"><li>– Endometriosis</li><li>– Vaginal pain syndrome</li></ul>
<b>3. Anorectal pain</b>
<ul style="list-style-type: none"><li>– Proctitis</li><li>– Haemorrhoids</li><li>– Anal fissure</li></ul>
<b>4. Neurological syndromes</b>
<ul style="list-style-type: none"><li>– Neuropathy of the labium</li><li>– Pathology of the sacral spine</li></ul>
<b>5. Muscular syndromes</b>
<ul style="list-style-type: none"><li>– Perineal pain syndrome</li><li>– Pelvic floor pain syndrome</li></ul>
<b>6. Other syndromes</b>
<ul style="list-style-type: none"><li>– Vascular</li><li>– Skin</li><li>– Psychiatric, ACUPUNCTURE</li></ul>

The doctor meeting pelvic pain syndrome has to do the diagnostic analysis process then he must exclude the urgent causes and finally decide whether the surgical solution is necessary (Tab. 1). His competences, however, begin in chronic syndromes of the “chronic pelvic pain” where the doctor can apply his knowledge and experience to improve the comfort of the patient.

### Pain symptoms in the small pelvis

- Pelvic pain lasting longer than 6 months.
- Current treatment does not lead to any improvement.
- Vegetative symptoms – depression, sleep disturbance, constipation, fatigue.
- Reduced physical activity.

Both women and men suffer from the symptoms of pelvic pain. If the pain persists for more than 6 months, we define it as a chronic pelvic pain. Differential diagnosis between acute and chronic pain is necessary for the therapeutic algorithms. E.g. acute pelvic pain can often occur after certain surgical interventions in the recovery period and it often tends to have a chronic character.

Outpatient surgery usually encounters with:

### 1. The pathology of coccygus and sacral spine

Frustrating pain, which significantly limits the quality of patient's life. We learn about it in the documents from 1588, and the term “coccygodynia” was introduced in 1859 by Simpson. Currently, the most commonly used term is coccydynia. However, neither of these terms specify the etiology of the disease. The cause has often not been identified. We meet patients having ailments and difficulties lasting even 10–15 years.

The terminal end of the spinal cord is often considered to be anatomically the leftover tail. The word “coccyx” comes from the Greek word meaning “cuckoo” bird. This Greek name for the cuckoo was applied for the coccyx that resemble the beak of this bird. The human coccyx consists of 3–6 vertebrae, however up to 80 % of patients have coccyx consisting of 4 vertebrae. The tailbone is concave in front and convex at the back. The sacrococcygeal joint consists of the cartilaginous-fibrous disk.





The distal end is typically curved inwards but can also be doubled.

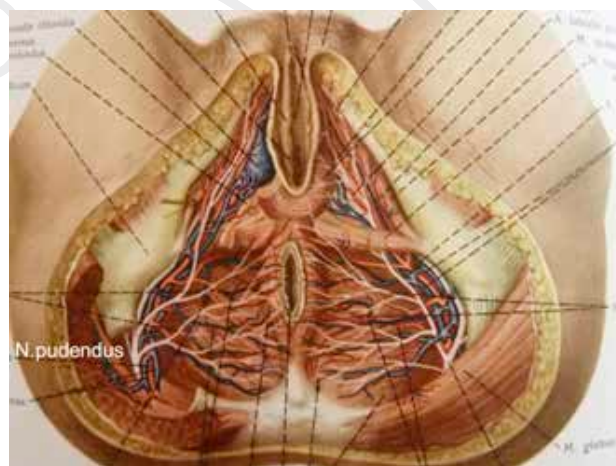
The human's coccyx plays an important role in the form of the tendomuscular apparatus and doctors as well as patients should remember its importance when deciding on the surgical resection of the coccyx because of undiagnosed cause of pain. The anterior side of the coccyx serves for the attachment of a group of muscles important for many functions of the pelvic floor. The levatorani muscle consists of several separate muscles including the musculus coccygeus, iliococcygeus, and pubococcygeus. This major muscle group supports the pelvic floor, holds the intrapelvic contents and plays an important role in strengthening of the fecal continence. Through the raphae anococcygeum (anococcygeal ligament), the coccyx supports the position of the anus. Gluteus maximus, which ensures stretching of the thigh during walking is attached to the posterior side.

## 2. Pelvic pain syndrome and pudendal nerve

Pelvic floor has three functions: supporting of pelvic floor organs, contraction and relaxation. A weak pelvic floor results into fecal, urinary and sexual dysfunctions, often leading to the prolapse of pelvic organ. On the other hand increased tension of the pelvic floor can also lead to constipation and urinary problems. Very often pain transmits even into the sacral area and cervical spine. (Cervical symptoms can be treated by adjustment of the pelvic floor muscle tone and it usually takes only a couple of minutes (Fig. 4, 5).) Excessive pelvic floor activity leads to the tension – to the entrapment syndrome of the pudendal nerve (Fig. 1). These symptoms manifest as pelvic pain that transmits into the vaginal or anorectal area. Pain resulting from denervation or renervation can be also caused by pathologies of pelvic organs or by postoperative adhesions.<sup>(2)</sup>

In the work “Antolak, S. J. Jr, D. M., Pawlina W. Hough, Spinner, R. J.: Anatomical basis of chronic pelvic pain syndrome: the ischial spine pudendal nerve entrapment, 2002” authors indicate that 11 % of American men suffer prostatitis symptoms but 95 % of them have no evidence of bacterial infection or infection in the prostatic fluid.<sup>(1, 3)</sup>

The same authors tell that ischia bone develops from the separate ossification nucleus between 13 and 15 years of age. Complete ossification occurs between 23–25 years of human life. This interval is a period of high physical and sexual activity, which leads to hypertrophy (enlargement) of the pelvic floor muscles, extensors and hip rotators. The rectal examination of young athletes confirms the thickening of the levatorani, which can be objectified by the ultrasonography measurement. It is therefore considered that young athletes may develop the “pelvic pain syndrome”.



**Fig. 1.** Anatomic projection of the pudenda nerve (Синельников Р. Д., Атлас анатомии человека III, 1974, с. 230)

## 3. Vascular pathology

Vascular pathology is manifested by ischemic claudication pain in the gluteus maximus caused by ischaemia of the gluteal muscle, obliteration of the iliac artery or distal segment of the aorta.





It is important to diagnose aortic aneurysms or pseudo aneurysm of the iliac artery.

In our group of chronic patients was this vascular pathology treated by acupuncture with 83 % success rate (Fig. 2).<sup>(4)</sup>

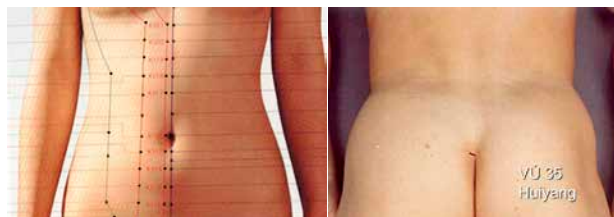


**Fig. 2.** A group of patients suffering from intermittent claudication with iliac artery obliteration in 19.3 % of cases treated with acupuncture.

(<http://www.doereport.com/generateexhibit.php?ID=71689&ExhibitKeywordsRaw=&TL=&A=>)

#### 4. Pathology of acupuncture meridians – meridian blocks and scars, coccygorectal microsystem

Acupuncture practice commonly deals with the acupuncture system pathology. In the context of pelvic pain, these are mostly symptoms of meridian blocks, which project to the abdominal wall, to the area of the lower burner (Fig. 3).<sup>(5)</sup>



**Fig. 3.** Projection of acupuncture meridians on the abdominal wall (*The Seirin Pictorial Atlas of Acupuncture*, 2000, Hans P. Ogal and Konemann Inc.)

Pathology of sacral spine is a very common in orthopaedic, neurological and surgical clinics. Human coccyx has a complex function within the tendomuscular system and doctors as well as patients should remember its importance when deciding on the resection of the coccyx because of undiagnosed cause of pain.

Pelvic pain is greatly frustrating pain. We learn about it in the documents from 1588. The term **coccygodynia** was first introduced in 1859 by Simpson. Currently, the most commonly used term is **coccydynia**.

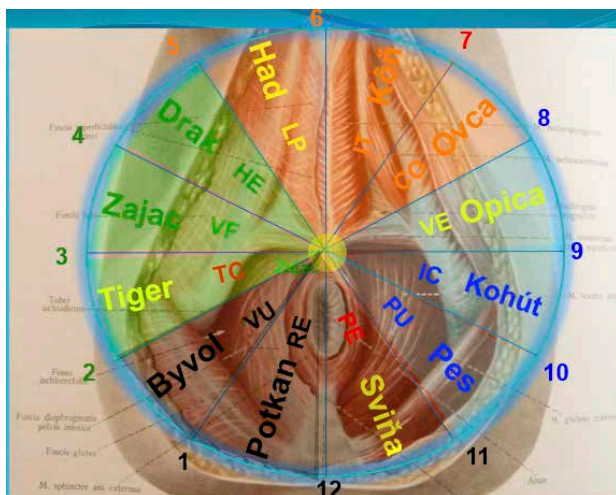
#### The acupuncture anatomical projections of the pelvic floor



**Fig. 4.** Projection of the pelvic floor (*The Seirin Pictorial Atlas of Acupuncture*, 2000, Hans P. Ogal and Konemann Inc.)







**Fig. 5.** CRM (The coccygorectal microsystem) in the projection of the pelvic floor According to Gustav Solar, M. D., PhD.<sup>(6)</sup>



**Fig. 6.** Scar bridging after lower middle laparotomy (because of undiagnosed pelvic pain) in the area of CV 8 projection.



**Fig. 7.** Scar bridging after lower middle laparotomy (because of undiagnosed pelvic pain) in the CV 8 and SP 12 projection.

## The acupuncture therapy of the pelvic pain – clinical cases

### 35 years old woman

28.11.2011 18:36

#### History:

After laser surgery of the cornea, sinusitis every 4 years, every year antibiotics, cold urticaria, gastritis, reflux in the past, painful menstruation, she can not become pregnant.

**Actual difficulties:** Cervicalgia, oedema of fingers of the right hand, right lower back pain, oedema of the left knee. Difficulties take a few years, coccydynia.

#### Acupuncture examination:

**Tongue** – impression of teeth, white coating on the tongue

**Pulse** – weak pulse on the kidney meridian

#### Tactile Solar's test

- Rotary microsystem of the face RMF 0
- Rotary microsystem of the yin RYIN 0
- Rotary microsystem of the yang RYANG 4





- Rotary microsystem of the right breast RMB dx 0
- Rotary microsystem of the left breast RMB sin 0
- Rotary microsystem of complex meridians RMC SI 3 dx
- Universal tendomuscular test UTMT Wind

**Acupuncture constitution:** METAL–EARTH–FIRE

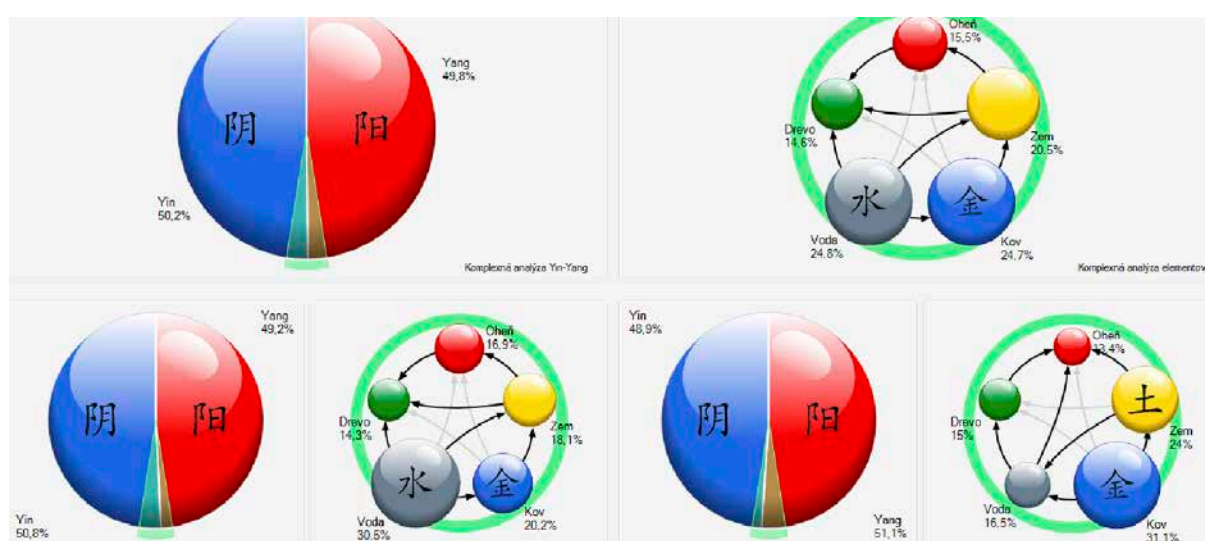
**Acupuncture diagnosis:** The general assessment YINSHI Changyin the greatest gradient EARTH–FIRE

**Acupuncture therapy:** SI 3dx EARTH–WATER–FIRE

**Status after therapy:** Microsystems are balanced, patient is in good shape, she has not problems with coccydynia.



**Fig. 8.** IDS-M (Impedance data system) 22.11.2011 before therapy



**Fig. 9.** IDS-M (Impedance data system) 28.12.2011 after therapy





## 40 years old woman

04.01.2012 18:04

### History:

Polyarthralgia, allergy, corasthma, inflammations of upper respiratory system and antibiotics twice a year, arrhythmia during childhood, inflammation of the urinary tract, colitis, hernioplasty of the right groin, laparoscopy, caesarean section, myoma uteri, coccydynia.

**Actual difficulties:** Left shoulder pain, left lower back pain, coccydynia, in June 2010 found myoma uteri and recommended surgical intervention. Acupuncture therapy 8 times since March 2009 to April 2012.

### Acupuncture examination:

**Tongue** – impression of teeth, white coating on the tongue

**Pulse** – weak pulse on the kidney meridian

### Tactile Solar's test

- Rotary microsystem of the face RMF 3
- Rotary microsystem of the yin RYIN 4
- Rotary microsystem of the yang RYANG 7
- Rotary microsystem of the right breast RMB dx 2
- Rotary microsystem of the left breast RMB sin 6

- Rotary microsystem of complex meridians RMC SI 3 dx
- Universal tendomuscular test UTMT Dryness
- Block EM 26, CRM (coccygorectal microsystem) type of coccygodynia 12

**Acupuncture constitution:** METAL–EARTH–FIRE

**Acupuncture diagnosis:** 9.3.2014 The general assessment YANGSHI Taiyang the greatest gradient FIRE–EARTH

**11.4.2012 YANGSHI Changyang** the greatest gradient METAL–EARTH

### Acupuncture therapy:

- EM 26
- SI 3 dx

### Status after therapy:

Microsystems are balanced, she has not problems with coccydynia. Gynaecological examination 11.4.2012 shows reduced myomatosis and surgical intervention is not indicated. In the IDS-M (Impedance data system-M) picture the quantitative potentiation of the METAL improved.



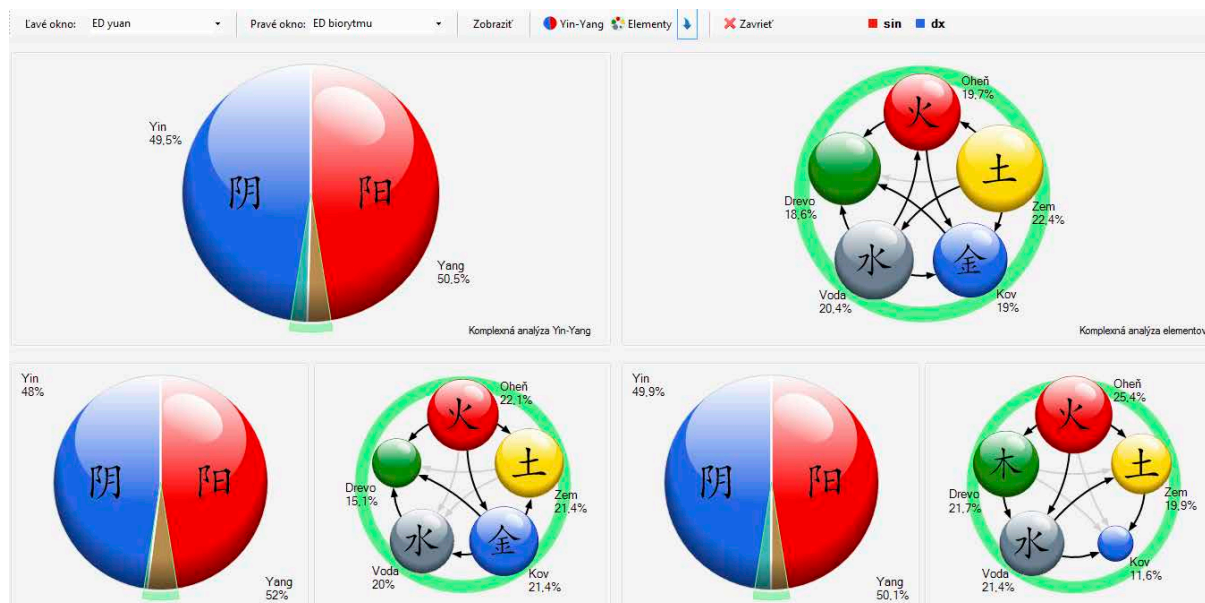


Fig. 10. IDS-M (Impedance data system) before acupuncture therapy 9.3.2009

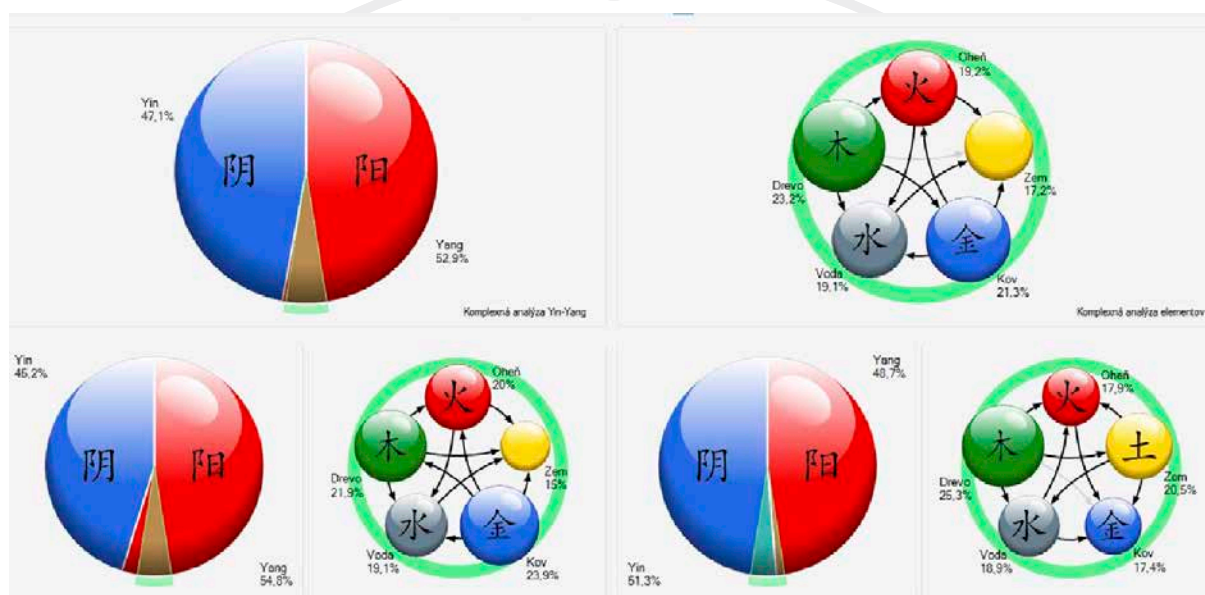


Fig. 11. IDS-M (Impedance data system) after acupuncture therapy 11.4.2012

## Discussion

The issue of the pelvic pain is very broad. It requires a good diagnosis and targeted treatment. Examples that we present point to a wide range of the acupuncture treatment. A very common cause of the pelvic pain are scars (Fig. 6, 7). In the article we present findings in

patients, where the scar was the cause of the discomfort. Other causes require a comprehensive acupuncture examination. In clinical picture of cases, which had symptoms of pain in the pelvic area, coccydynia, uterus myomatosus, we presented the clinical state development. We recorded the clinical improvement, and the







impedance data system imaging improvement. The indication for surgical treatment was no longer needed (Fig. 8, 9, 10, 11).

## Conclusion

1. Pelvic pain is an interdisciplinary issue.
2. In the unclear cases, it is appropriate to carry out an acupuncture and psychological examination, which very often clarify the cause of frustrating problems.
3. The key positive factors are public awareness and natural childbirth, negative factors are excessive physical exercise, hormonal contraception.

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## Acupuncture and Breast Cancer

Doc. Jana Slobodníková, M.D., CSc., h. Prof.

### Abstract

Breast cancer is the most frequent malignant disease occurring in female population in the world. The primary aetiology is unknown. Early detection is achieved by screening or preventive examinations. The incidence of breast cancer in stages Tis and T1 grows and the treatment, beside the operation, includes radiation therapy and chemotherapy. Acupuncture is a healing method commonly associated with the treatment of backache, headache, muscle pain, etc. But could it be applied in the treatment of breast cancer too? This study attempts to cast more light on this issue. The author presents results of selected clinical studies.

### Key words

breast cancer, chemotherapy, hormone therapy, acupuncture, natural medicine

### Introduction

Breast cancer is the most frequent oncological disease in female population globally, which is also the case in Slovak Republic. The latest data show there were 2,608 newly diagnosed cases of breast cancer in Slovakia in 2008 (Slobodníková, 2013). The number of the newly diagnosed cases of breast cancer gradually increases and along with it also the number of the so-called small cancers in stages Tis and T1 according to the TNM staging system and also the stage T2 according to the post-surgical histopathological classification. The most common type of treatment is a breast-preserving surgery (Chválňy, Sabol, 2011), which is,

depending on the final histology, followed by chemotherapy, hormone therapy and/or radiation therapy. Such treatments carry along a series of complications. In case of the surgical treatment it is the scar tissue pain, accumulation of fluid under the scar, healing per secundam, and lymphedema in the scar tissue after surgery. After the chemotherapy and during the cytostatic therapy the most commonly occurring complications include digestive problems like nausea, vomiting, diarrhoea, obstipation, or the loss of appetite. Further problems include haematopoiesis malfunctions, white blood cells disorders, lower immune system function, cardio toxicity, neuralgia affecting the peripheral parts of limbs, headaches and a very broad spectrum of other side effects (Špánik, 2011). The symptoms of the hormone therapy in women are similar to those of the climacteric syndrome. The most common ones include hot flushes, increased perspiration, mood changes and insomnia. There are countless ways of classical conventional treatment of the mentioned symptoms and complications. During the cooperation with our colleagues from the Medical Society of Natural Medicine and contact with breast cancer patients undergoing treatment we discovered some more or less serious symptoms. We realized that the patients could also be helped in non-pharmacologic ways. I attended the first conference of Natural Medicine and Oncology that took place on the premises of Alexander Dubček University of Trenčín on Nov. 11, 2011. Repeatedly, I have been asked to make presentations on the relation between the breast cancer and natural medicine, i.e. breast cancer and acupuncture. The aim of this study





is to present the results of the selected clinical studies relating to acupuncture and the treatment of breast cancer-induced complications.

## Material and Methodology

We studied literary sources available via the common research methods. Scientific studies on the use of acupuncture in cancer treatment and its side effects started to appear only recently. Laboratory studies suggest that acupuncture could reduce vomiting caused by the chemotherapy. The laboratory studies were aimed at finding out how acupuncture works in the treatment of cancer. The majority of studies on the use of acupuncture in patients with malignancy were carried out in China, which comes as no surprise (National Cancer Institute, 2014). Studies in humans on the effects of acupuncture on the immune system showed that acupuncture transforms it. Other studies examined how acupuncture affects pain. The clinical studies proved the reduction of pain in some cancer patients. One study claimed that the majority of patients treated with acupuncture were able to stop taking pain relievers altogether or reduce the amounts of pain relievers (Hervik, J., Mjaland, O., 2009). Findings gained from these studies cannot be considered relevant due to the small number of examined patients as well as other circumstances. A study based on strictly scientific methods is needed to showcase how acupuncture affects pain. Women diagnosed with breast cancer with a high level of progesterone and estrogen receptors are commonly treated with hormone therapy. These function as aromatase inhibitors and may result in muscle and joint pain. A random study concluded that a true acupuncture is much more effective in the reduction of joint pain or stiffness than a placebo (inactive) acupuncture in patients taking aromatase inhibitors. The most convincing proofs of the effectiveness

of acupuncture come from the clinical studies on the use of acupuncture for reduction of nausea and vomiting. Several types of clinical studies using different acupuncture methods showed that acupuncture reduces nausea and vomiting induced by chemotherapy, surgical interventions and morning sickness. It may be concluded that acupuncture is more effective in the prevention of vomiting than in the reduction of nausea. Studies on the effects of acupressure on the nausea and vomiting reduction were carried out on women treated with chemotherapy. The studies proved that the acupressure in the acupuncture points helped reduce the sickness and vomiting as well as the amount of medication used to treat these symptoms. The hormone therapy may cause hot flushes in women with breast cancer or men with prostate cancer (Špánik, Špáníková, 2013). Some studies concluded that acupuncture could positively affect the reduction of hot flushes in these patients. A randomized study of fatigue in cancer patients showed that those who underwent a series of consecutive acupuncture treatments were less tired compared to those who underwent acupressure or false (placebo) acupressure. The results of the clinical observations of cancer patients were used in the study of the effects of acupuncture on the oncological symptoms and side effects caused during the cancer treatment, which include weight loss, cough, coughing up blood, anxiety, depression, dry mouth, speech problems, oesophageal obstruction, hiccups and accumulation of fluid in arms or legs. The studies showed that in many patients the acupuncture treatment either reduced the symptoms or prevented their worsening (Whiteman, Honor, 2013).

We, students of the western medicine, do not know much about acupuncture. Therefore, what follows is some basic information about acupuncture in a nutshell (Solár, 2014).





What is acupuncture? Acupuncture uses sterile, hair-thin needles, which are inserted into specific points located on the skin. These are called “acupuncture points”. These needles are then slightly positioned. Scientists agree that acupuncture stimulates the nervous system and helps the natural painkillers and other substances supporting the cells of the immune system release. These “travel” to weak parts of the body and mitigate the symptoms. Studies prove that acupuncture may:

- help reduce tiredness
- control and mitigate hot flushes
- help reduce sickness
- reduce vomiting
- reduce pain.

Along with other practices such as tai chi, acupuncture forms the central part of the traditional Chinese medicine (TCM) – the ancient system of medicine. The Chinese medicine supposes that the life energy named “qi” flows along 20 routes or “meridians” which are connected through the acupuncture points. According to TCM, when qi is blocked, the body cannot function at its best. The aim of acupuncture is to open up specific points on these routes and release the blocked qi. The effects of acupuncture and feelings of relief differ depending on the person – one may feel either relaxed, or, quite to the contrary, tense.

Results of the research of the effectiveness of acupuncture on patients with breast cancer

The results of the studies on how acupuncture may mitigate some of the symptoms of oncological diseases and reduce some of the side effects of tumor treatment proved that acupuncture may reduce fatigue, hot flushes, nausea, vomiting and pain. The most detailed study of acupuncture was published in the Journal of American Medical Association in 2000. The research was carried out on a

group of 104 female patients with breast cancer undergoing chemotherapy. These patients received high doses of chemotherapy drugs and were given traditional drugs to relieve nausea and reduce vomiting (anti-emetics). Apart from the medicamentous therapy, the women were divided randomly into three groups – the first group underwent a 5-day application of electroacupuncture (a type of acupuncture in which needles are stimulated by a moderate electric current), the second group of patients underwent acupuncture without the electric current and the last group of patients did not receive any acupuncture treatment. The patients who received acupuncture had a considerably lower incidence of nausea than those who did not receive any acupuncture treatment.

Further studies completed at Duke University in the USA and published in 2002 evaluated the effectiveness of the treatment with antiemetics on the reduction of nausea in comparison to the acupuncture treatment applied before the breast cancer surgery with the aim of reducing the symptoms of nausea that were expected to occur after the surgery. The results proved that acupuncture treatment was much more effective in reducing the nausea and its symptoms than antiemetic drugs.

A French study published in 2003 studied the effectiveness of acupuncture in the treatment of tumor pain. In patients who had been receiving acupuncture treatment for two months the pain was reduced by 36 %, while in patients who had been treated by placebo acupuncture the pain was reduced only by 2 %. Another research at the Memorial Sloan-Kettering Cancer Center in 2004 showed that acupuncture reduced fatigue by 31 % in patients with various types of cancer who had been treated with chemotherapy. In 2005 a different study of patients with breast cancer in Sweden showed that acupuncture could reduce the hot flushes up to 50 %. While





doctors who carried out the studies consider these results encouraging, others are careful and insist that the results are still weak and require further study (Hervik J., Mjaland O. 2009).

## Discussion

To a great extent the results of the aforementioned studies are hard to verify. Our medicine is based on the elementary medical principles, scientific outcomes and their application in practice. I as a radiologist do not feel competent enough to contribute to the discussion. Therefore, I reached for scientific sources.

There are many institutions in the world offering acupuncture treatment. To my best knowledge, no complex systematic overview of acupuncture used in oncological care exists either in America or Slovakia. According to the results presented at conferences of natural medicine in 2014 (Šamorín – Čilistov), 2013 (Trnava), and 2012 (Nitra), which I attended, as well as the conference in Oncology and natural medicine in 2011 in Trenčín, the effects of acupuncture on the symptoms of cancer patients have not been explored or assessed yet. From the beginning of 2011 until December 2011 the author of this overview study searched the Medline, EMBASE, CINAHL, Cochrane (all databases), Scopus and PubMed databases for prospectively randomized clinical studies (MRC) that would assess acupuncture and its effects on the negative symptoms and side effects in the oncological care (Garcia, M. K., et al., 2013). Only those studies which used the classical needle acupuncture and acupuncture points were assessed. The study was evaluated by the Cochrane Risk of Bias assessment tool (ROB). According to the symptoms the results were evaluated and marked either as positive, negative, or unclear. Altogether 2,151 publications were studied. 41 MRC included eight symptoms (pain, nausea, hot flushes, fatigue, xerostomy

as a reaction to radiation therapy, long-lasting postoperative ileus, anxiety – mood changes and sleep disorders) and thus met the assessment criteria. One of the studies showcased the positive effects of acupuncture on the reduction of nausea induced by chemotherapy and on vomiting with the lack of ROB. Eight out of the remaining studies had an unclear ROB (4 studies with positive, 3 with negative and 1 with unclear results). Thirty-three studies had a high ROB (19 studies with positive, 11 with negative and 3 with both positive and negative results depending on the symptom). The authors of studies from the last decade of the previous century considered acupuncture as a supportive therapy used as a part of a more complex treatment of oncological diseases (Bourgeault, I., 1996, Neogi, T., Oza, A. M., 1998).

## Conclusion

Acupuncture is suitable in the treatment of the chemotherapy-induced nausea/vomiting, however, further research is required. In the treatment of other symptoms the effectiveness remains unknown due to the high ROB among the studies. Further research should focus on the standardization of the examined group of patients and the therapeutic methods. Typically, the studies should be “blind” – double or triple blind as they are usually carried out, without the possibility of distorting the results in advance or knowing which are using placebo and which are not. They should be assessed by a group of experts. Considering the statistical relevance, the number of the examined persons should be sufficiently high.

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## Larval therapy II. – a modern method of treatment long-term non-healing wounds and use in clinical practice

Marek Čambal, M. D., PhD, Mgr. Mária Habrmanová,  
Mária Zemanová, M. D., Dr. Peter Takáč, CSc.

### Abstract

Larval therapy (Maggot Debridement Therapy – MDT) is the intentional application of alive larvae of green bottle fly (*L. sericata*) to non-healing wounds, which have three mechanisms of actions on wounds: debridement, disinfection, stimulation of healing. MDT is used for the purpose of debridement and disinfection of chronic wounds with necrotic tissue. On the other side, larvae should not be used in open wounds, in sinuses, or in wounds around large blood vessels. We used three basic application techniques of MDT, “retention cage” – modification application techniques derived from the techniques of Shermanom, a new method of applying the “retention cage” with using adhesive tape on base of polyvinylalcohol and most practical application of larvae in a “biobag”. Sterile larvae and eggs for MDT application in Slovak Republic are made and distributed by organisation Scientica s.r.o. Nowadays MDT is used in many countries as an alternative to surgical treatment, which provides a fast and efficient wound debridement and contributes in the wound healing process as well as reduces the total cost of treatment.

### Material and methods

#### MDT application

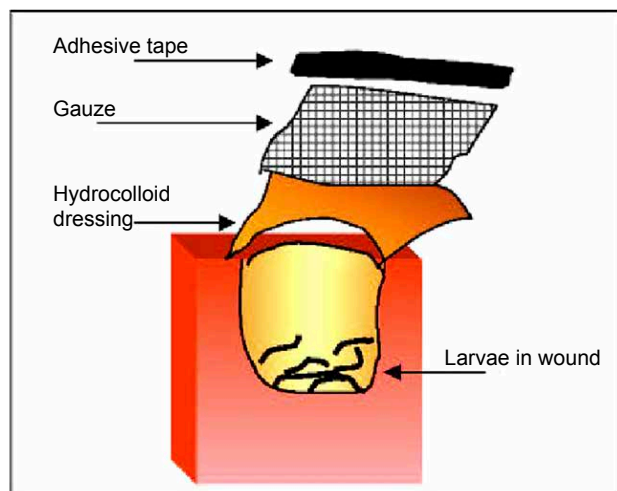
In our study, we used three basic application techniques of MDT:

- retention cage – modified application techniques derived from the techniques of R.A.Sherman (2002)
- a new method of applying the “retention cage” with using adhesive tape on base of polyvinylalcohol
- application of larvae in a “biobag” made by Medalt.

#### Retention cage

The application of a retention cage in accordance with Sherman (Sherman, 1996, Sherman 1997) means that the middle of the hydrocolloid dressing is open about the size and form of the wound and this dressing is glued around wound. The larvae of green bottle fly *L. sericata* are applied to the wound defect, larvae are overlapped by sterile chiffon and nylon gauze, which is glued to hydrocolloid dressing by adhesive tape (Fig. 1).

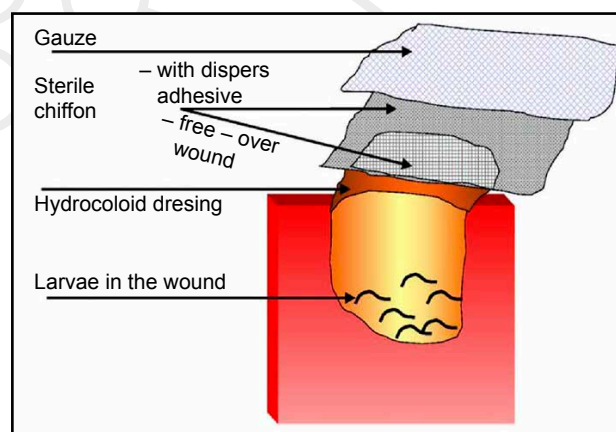




**Fig. 1.** Retention both clot by Sherman

The main role of the hydrocolloid dressing is the protection of skin around the wound defect against the effects of wound secretions mixed with larval digestive juices and the protection of skin against the effects of adhesive tape. We examined this approach many times. We did not use adhesive tape in our modified retention cage (Fig. 2). Our designed retention cage is more easily and quickly designed and it allows a simpler application of larvae to the wound. Certainly, it is cheaper. The retention cage is glued to the hydrocolloid dressing by nontoxic adhesive specially developed by the Polymer Institute SAS (by Doc. Štefan Florián, CSc.). The adhesive was adjusted to the ideal density and time of setting and secretions from the wound are insoluble to the adhesive. We must remove the grease of the skin around wound defect before the application of the hydrocolloid dressing so that it adheres to the skin. We use benzinalcohol, which disinfects the skin around the wound defect and it evaporates from the skin. The hydrocolloid dressing is the protection layer for surrounding skin and it protects the skin against the maceration of larval excretion/secretion and simultaneously from the background of the retention cage. In Slovakia,

we have many sorts of hydrocolloid dressings made by different companies. We checked about all of them and the best were the hydrocolloid dressings Granuflex and Hydrocoll®, or Hydrocoll thin®. They are made from mild, forming, and elastic material, which adheres to skin and all hydrocolloid dressing are easily removed from skin without pain after therapeutic cycle. The hydrocolloid are individually sterile encapsulated and they are made in different sizes (Fig. 3). For some wound defects (for example heel, foot after transmetatarsal amputation, etc.) the application of hydrocolloid dressing is problematic, therefore we apply the special forming hydrocolloid Hydrocoll sacral or concave types into these wound defects. Hydrocolloid material is absolutely plastic, so that we can glue it to a wound of any form and place on body (Fig. 4).



**Fig. 2.** Retention net with free sterile chiffon and sterile chiffon with dispers adhesive

We apply the disperzal adhesive on glued hydrocolloid dressing with the help of a finger with sterile glove (Fig. 5). We put the larvae of green bottle flies according to a number of 5–10 larvae per cm<sup>2</sup> into the wound defect before covering the wound by schiffon. Larvae are distributed in sterile tubes. In order to MDT the number of larvae to be used in the wound is





needed to be determined. The number of applied larvae requires the application of MDT.

When we applied a bigger or smaller number of larvae to the wound defect after its debridement, it was less effective.



**Fig. 3.** Application of hydrocolloid dressing around treated wound defect as base of retention cage



**Fig. 4.** Application of adhesive tape of hydrocolloid dressing around treated wound defect as base of retention cage

When we put larvae on the wound, we cover the wound defect by sterile chiffon (80 Mesh Nylon Monofilament, Vestergaard Frandsen Group Denmark) so that the glue to hydrocolloid dressing inhibits larvae to escape (Fig. 6). The choice of an ideal chiffon is a crucial

because a chiffon must allow the transition of gas and fluids, otherwise the larvae may perish. The holes of chiffon must be smaller than the larvae so that the larvae do not leave the wounds. We sterilized the chiffon by exhalations of peracetic acid or in an autoclave.



**Fig. 5.** Application of adhesive on hydrocolloid dressing

The established retention cage is covered by measures of sterile gauze (Fig. 7), which function as a suction of wound secretions. We fixated the gauze to a retention cage with the help of a cotton hydrophile compress. Wound defects treated with MDT produced the largest number of fluids of typical color (Fig. 8) and smell, and this wound secretion is needed from the treated wound. Usually on the second and repeatedly on the third day of therapy, a change of gauze is needed, but main retention cages is in situ, failing which the secretions can excite around skin. Because of these complications, we must abandon MDT in some patients. When the gauzes are soaked by the wound secretions, there is a limit to oxygen and the larvae perish. Protection around skin is possible by many methods: for example, jecoris or zinc paste. In our collection of patients, we did not use this method because we periodically changed the gauzes soaked by the wound secretions.







**Fig. 6.** Application of retention cage on adhesive on hydrocolloid dressing. Larvae are applied under retention cage



**Fig. 7.** Retention cage is covered by sterile gauzes

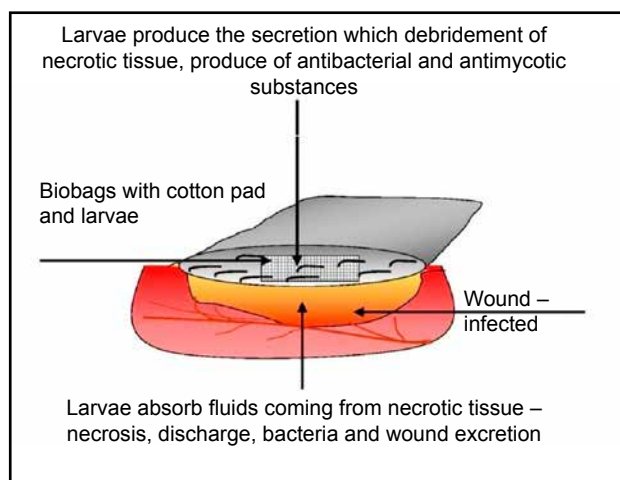


**Fig. 8.** Typical coloring of compress soaked by wound secretions during larval therapy

### Application of larvae in “biobags”

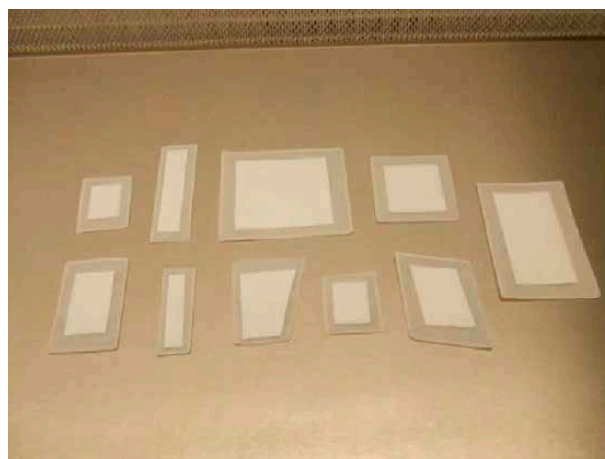
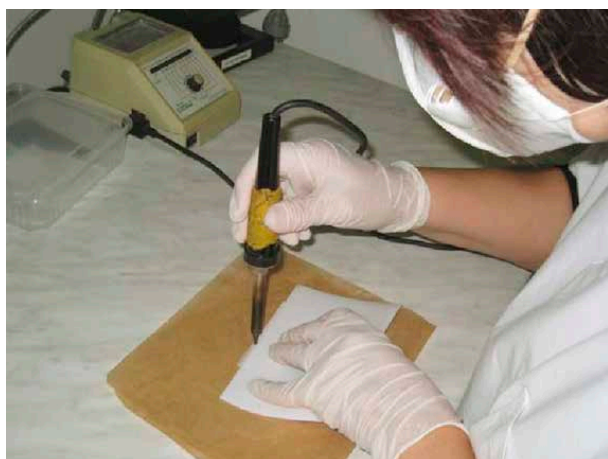
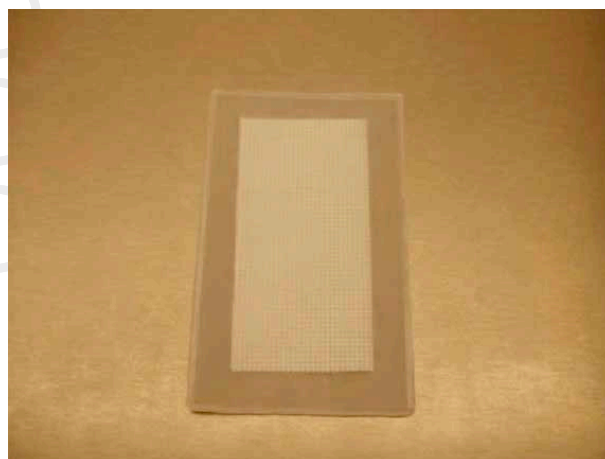
Application of larvae in biobags is a relatively modern method of larval therapy. The “retention cage” is applied to the wound without fixation to the skin. The larvae of the green bottle fly are sealed to the biobags. Biobags are made from materials which facilitate the transmission of larvae enzymes and oxygen to the wound (Fig. 9, 10 a–d). The application and removal of the biobags from the wound is easy and fast. Before the application, we must flush the wound and humidify the biobag in the physiological solution. In case that form or size of the biobag does not match the form or size of the wound, we tag together the biobag so that the edges do not overlap the skin. When the wound is large, we apply more biobags to the wound. The application of the biobag especially benefits wounds where the form, localization, or condition of ambient skin are not convenient during the application of the retention cage – for example in the heel, in circulating defects of the foreleg (tibia), or in sacral decubites. The skin around the wound must be protected by hydrocolloid dressing or other protection material. Using the biobag is especially convenient for treatment in a hospital or ambulance. We recommend using the biobag in departments starting with larval therapy.





**Fig. 9.** Design of biobags

In Europe, biobags with larvae commercially available (for example company ZooBiotic Ltd., [www.zoobiotic.co.uk](http://www.zoobiotic.co.uk)) can be found. The application of biobags is delimited by their financial cost in the Slovak republic. In 2007–2008, we developed biobags able to be applied directly on the treated wound defects. After beginning failures in the preparation of biobags as mismatched material of biobag (perish of larvae) and the imperfect seal of biobags (escape of larvae from biobags), we constructed a biobag which is standardly used in many ambulances and hospitals in the Slovak Republic (Fig 10a–d). The material of biobags is permeable for fluids and oxygen, so biodebridement may take place after the biobag is placed to the wound.



**Fig. 10. a, b, c, d.** Preparation of biobags in laminar box – the size and form of biobag is defined per demands of the doctor







## Examples of treatment by larval therapy

### Case 1

53 years old man, paratonia. He was admitted to the hospital for MDT for 3 month old gangrene on the left Achilles tendon. The cause was diabetes mellitus, which lasted approximately 10 years. Irregularly of drug ingestion. The area hospital recommended amputation.



The surgeon did a necrectomy and excision of a part of left Achilles tendon in spinal anaesthesia. 4 cycles of MDT followed with immediate application of larvae to the wound. The patient complained about medium intense pain during larval therapy.

The wound defect was healed after larval therapy. After treatment, we observed abridgement of the plantar flexis in patient.

### Case 2

68 year old patient, a diabetic treated by insulin, after amputation of right foreleg (tibia) in 2001 because of diabetic gangrene. He was transported from the area hospital in order to have MDT for a non-healing defect of the left leg under the lateral ankle. The patient had repeated necrectomia and the wound defect spread. The surgical reconstruction wasn't indicate and we applied 2 cycles of MDT during hospitalization. After the debridement of defect, he was transported to II. Internal Clinic for the treatment with Prostavaslin. The wound defect was healed and permanently clear after larval therapy.



## Clinic conclusions of larval therapy

Larval debridement is effective and it is associated with wound disinfection and the stimulation of healing process.





The direct effect of larval therapy is amazing for all types of non-healing wounds. Larval therapy is the best for venous diseases. On the contrary, patients with arterial diseases benefited the least from MDT.

We can apply larvae to the wound by Sherman's direct method and by our modified method without adhesive tape or with help of adhesive on disperz base.

Biobags are the best alternative of MDT. Manipulation with biobags is fast and comfortable for patients and nurses. Biobags are non – significantly less effective than “free-range” larvae.

Larval therapy is used as an alternative method of treating non-healing wounds before amputation. According to our experiences, larval therapy should be used in the treatment of non-healing wounds in early stages of diseases.

In our clinical experiences, the effects of MDT consist in the disinfection of wound. There are a reduction of bacteria infecting the wound defect, the reduction of microbial resistance to antibiotics, removal of the necrotic tissues, stimulation of the granulation tissue, and other processes leading to the healing process.

The pain associated with the application of larvae is well-tolerated by patients. We prescribed the analgetics.

Larval therapy has less contraindications when we follow the instructions.

Is it possible and practical to use the eggs during larval therapy? Larvae hatched from eggs into the wound remove (debridement) the necrotic tissue.

The eggs can be used: in biobags, “free-range” eggs in retention cage by Sherman, “free-range” eggs in retention cage modified by our or “free-range” eggs with new adhesive tape made by Polymer Institute SAS in Bratislava.

Larval therapy used eggs as an alternative to vital larvae, which is possible during hospitalization or in an ambulance.

It is possible to save money with larval therapy: sending larval material on 2 cycles in one package (larvae on first cycle and adequate number of eggs on second cycle of MDT). In the second cycle, either cooled eggs or larvae hatched from eggs will be applied.

We were testing larval therapy using eggs and vital larvae in biobags during 6 cycles of hyperbaric oxygenotherapy. Similar usage of larval therapy is not found in literature.

We are using a new method of MDT with the use of material based on base polyvinylalcohol instead of hydrocolloid dressing. It will need clinical tests before implementation.

Today, we are testing active molecules isolated from green bottle flies in cooperation with SAS and other medical departments in the Slovak Republic. We are also testing active substances applied to hydrogel and microcapsule to chronic wounds.

In our experiences, MDT changes the chronic wound from an “acute” wound by the debridement of the necrotic tissue while bacteria and biofilms simultaneously stimulate the healing of the wound.

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## Acknowledgements

This study was established with the support of the Operational Program Research and Development and co-financed by the European Fund for Regional Development (EFRD). Grant: ITMS: 26240220020: Establishment of biotherapeutic facility and technology proposal for production and development of bio-drugs.

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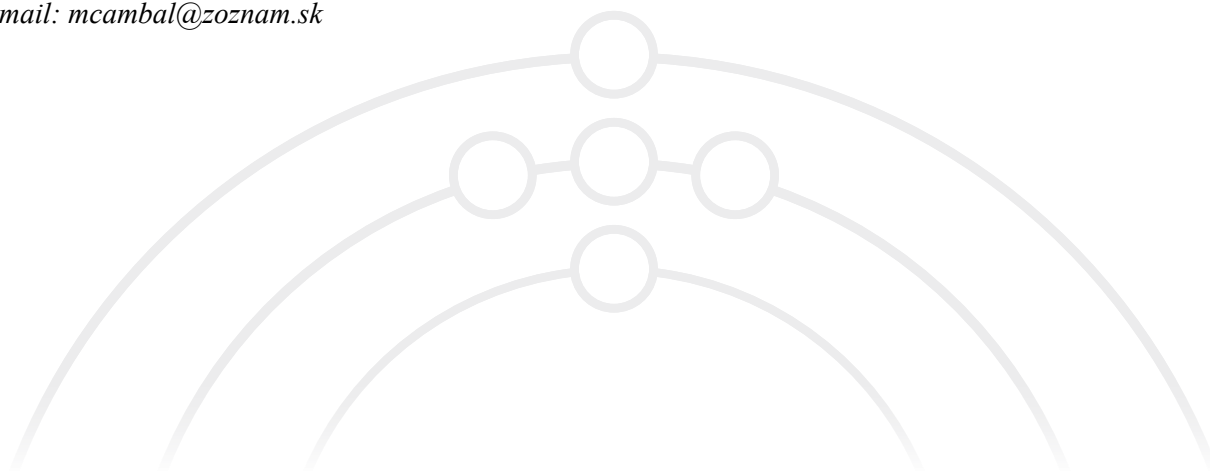
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## Geochemical factors of the environment in relationship to human health (survey)

Doc. Dr. Miloslav Khun, CSc.

### Abstract

This contribution is dealing with problems of geochemical environment impact to human health. There are new trends of geoscience defined – medical geology and medical geochemistry. Importance of geochemical findings about monitoring of natural, but also anthropogenic conditioned environment in relationship to human health is emphasized. By reason of briefness, only some few confirmed or assumed impacts of geochemical environments to human health are listed.

### Key words

medical geology, medical geochemistry, geochemical environment, potentially toxic trace elements, human health

Experience with nutrition diseases of domestic animals suggest that the geochemical characteristic of soil as a source of trace elements can affect health or productivity. Researches have proven that areas deficient in Cu, Se, Co and I and with F a Pb toxicity are particularly risky. These researches suggest changes in soil and in crops growing on it reflected by the intake of trace elements in food. A high pH of soil resulting from calcareous parent rocks or from calcareous fertilizers limits the availability of Zn, Fe and Co in soil, and on the other hand enhances the accumulation of Mo, Se and F in crops. Although such relationship have been thoroughly investigated in order to detect animal disease related to trace elements, the relationship

between trace elements and human health is less known. Nevertheless, the latest studies have revealed the pathogenesis of drastic bone diseases related to an increased intake of F in India and the relationship between a low Se content in soil and animals and the incidence of cardiomyopathy of children (Keshan disease) and, on the contrary, selenosis of adults in some regions in China. Iodine is the first element found to be essential for human health, and thyroiditis is the first endemic disease that's relationship to medical geochemistry has been recognized.

It is usually hard to answer the important question as to how favourable a certain area is for life. Health of billions of people on our Planet is in various level affected with natural environment which main component are the geological factors, simply the geology of Earth. It may seem that geology is distant to problems of human health. But minerals and rocks, which are the main component of building blocks of our Planet contain majority of naturally occurring elements. Several elements are in small concentrations essential for plants, animals and humans. Majority of these elements get into human organism via food, water and air. Rocks are decomposed by weathering processes and form soils on which plants grow as food for animals and humans. Ground waters as source of drinking water drain thru the rocks as a part of hydrological cycle. Also lot of dust and some gases in the atmosphere are of geological origin. Therefore, human organism is in direct







connection with geology through food chain and by inhalation of atmospheric dusts and gases.

Planet Earth supplies environments favourable for our life and so has decisive influence on our health and quality of life. We consider often for granted that we have a clear environment without an impact to our health. It is not the truth. The fact that geological materials affect human health is not new. Old texts of the Chinese, Egyptians, Arabs or Greeks described many therapeutical applications of various rocks and minerals, but on the other hand also the health problems which they could cause. Lately, an increased attention is paid to the effect of natural environment on human and animal health. Morbidity of some diseases decreased considerably, e.g. the elimination of cretinism is obvious evidence, especially in developing countries. An appearance of mentally retarded and dwarfed people was frequent around hundred years ago in some parts of the world. Persons with this characteristics – a syndrome marked with the term ‘cretin’ used in its original meaning – had extremely low quality of life. Other people avoided them, often these persons ended up as an attraction in street shows. These people suffered simply from lack of iodine in their diet. Physicians with cooperation of the geochemists observed characteristic geographical distribution of cretinism. People whose diet in great measure depended on crops growing on soils with iodine deficiency (parts more distant from ocean) were potentially endangered by risk of cretinism. The problem was identified with cooperation of physicians and geochemists, then it was possible to handle – through iodination of kitchen salt.

As the science developed, many causal relationships were clarified. A demand for new scientific discipline arose – medical geology (geomedicine). To understand the task of rocks, soils and groundwater in relationship

to human and animal health, a cooperation is necessary between geochemists, mineralogists and medicine researchers. Medical geology is defined as *science dealing with the relationship of natural geological factors and human and animal health. It investigates the impact of common environmental factors to geographical distribution of these health problems* (Selinus, 2004, Selinus et al., 2005). Simplified definition follows due to cited authors (<http://www.cprm.gov.br>): *medical geology is a science dealing with the relationship between natural geological factors and health status of people and animals*. So medical geology is broadly understood and complicated subject, which needs an interdisciplinary approach. For a responsible resolution of this causality it is unconditionally necessary to utilize especially geochemical findings (e.g. distribution and forms of behaviour of chemical elements in geological environments, their migration and so on). There is a space for independent focus of medical geology – medical geochemistry. This field of geomedicine incorporates except of natural geological factors also anthropogenic conditioned geological processes in the lithosphere, biosphere and technosphere (the sphere subordinated to human intellect) in its researches. Khun (1998) defines this discipline as follows: *Medical geochemistry as part of geomedicine is a scientific discipline dealing with an effect of chemical composition of natural and anthropogenically conditioned geochemical environment and geochemical processes to human and animal health in context of external environmental factors*. Many facts prove that more diseases are based on the deficiency or excess of potentially toxic trace elements. Chemical composition of organism is to a certain measure a reflexion of external geological environment, namely its geochemical factors. In tab. 1 there are due to the extent of this







contribution selected only four potentially toxic trace elements, outcomes of their deficiency

and excess in human organism in relation to geochemical factors of environment.

**Tab. 1.** Selected potentially toxic trace elements, their impact to human health in relationship to geochemical factors. Source: Various authors in Adriano (2001)

	Deficiency	Excess
As	<ul style="list-style-type: none"><li>– no evidence exists that As is essential for human despite its ubiquitous occurrence in all tissues and fluids of organisms (in minor concentrations)</li><li>– insufficient grow of hair was described</li></ul>	<ul style="list-style-type: none"><li>– acute poisonings are very rare The two most common exposure routes of As to human are ingestion and inhalation. Drinking of As-contaminated groundwater has been suggested as the main risk for people. They may ingest As in water from wells drilled into As-rich geologic strata, or in water contaminated by industrial or agrochemical wastes. Ingested As has a shorter half-life than inhaled As due to a more rapid biotransformation in the liver.</li><li>– in case of chronic poisonings there are:<ul style="list-style-type: none"><li>a) skin changes: keratosis, dermatitis – e.g. China, the West Bengal, Bangladesh, Mexico – poisoning from drinking water</li><li>b) neurological changes: polyneuritis and motoric polio. A frequent occurrence of cretinism and deaf-mutism between so called arsenic consumers (arsenofaguses) in Steyr Alps was described.</li><li>c) haematological changes: inhibition of haematogenesis, e.g. poisoning in Nakajo (prefecture Niigata, Japan) – decrease of erythrocytes</li><li>d) carcinogenic impacts: exposition from drinking water – e.g. endemic occurrence of skin cancer in Cordoba (Argentina); Reichenstein disease (Silesia) – manifestations of chronic As poisoning (stomach-intestine disorders, ulcers in mouth, keratosis of fingers) – a half of patients suffering from this disease died of cancer. In this case the disease was certainly caused by human activity which changed the geochemical environment. A similar example is the biggest endemic poisoning in modern history – Bangladesh</li><li>e) teratogenic and mutagenic effects are reliably confirmed – in exposed workers chromosome aberrations in lymphocytes were detected</li></ul></li></ul>





	Deficiency	Excess
Cd	<ul style="list-style-type: none"> <li>– there is a current discussion about Cd essentiality for human</li> <li>– traces of cadmium act as tissue toxicant, therefore we can't speak about its deficiency in human organism</li> </ul>	<ul style="list-style-type: none"> <li>– there are basically four sources of Cd that may contaminate food – agricultural technology (e.g. pesticides, phosphate fertilizers), industrial pollution, geological sources and food processing (e.g. food additives)</li> <li>– occurrence of anaemia in workers exposed to Cd in industry</li> <li>– chronic intake of cadmium via contaminated rice in prefectship Toyama (Japan) caused itai-itai disease – intensive pain of bones, frequent fractures, grave osteomalacia</li> <li>– first report on carcinogenic effect of cadmium to humans come from the year 1965 when prostate gland carcinomas were found in group of workers after dust exposition</li> <li>– teratogenic and mutagenic effect: in exposed workers chromosome aberrations and anomalies were observed</li> </ul>
Hg	<ul style="list-style-type: none"> <li>– for plants and higher animals it is not essential</li> </ul>	<ul style="list-style-type: none"> <li>– mercury is toxic for people, association with occupational exposure and with exposure through consumption of contaminated food</li> <li>– the Hg poisoning in Minamata Bay (Japan) demonstrates the potential hazards associated with chronic exposure to Hg</li> <li>– available biochemical data indicate that the toxic effects of Hg and its compounds are caused primarily by the reaction of a Hg ion with SH-groups of biomolecules</li> <li>– the toxicity has three levels depending on the chemical form of mercury and descends in the following order: Hg alkyls &gt; fumes of metallic mercury &gt; Hg<sup>2+</sup> salts</li> <li>– in areas with increased levels of Hg in the geochemical environment thyroid gland diseases are widespread even if iodine concentration in the environment is adequate or excessive. The endemic disease is caused by the presence of Hg rather than by iodine deficiency</li> <li>– in 1950, in two separate cases (above mentioned Minamata and the second Niigata, Japan) of Hg poisoning many people fell ill and died after consuming Hg-poisoned fish. In this case Hg-geochemistry in relation to human health was induced by industrial pollution.</li> </ul>





	Deficiency	Excess
Pb	– lead and its compounds belong between toxic substances for human organism, due this reason a state of its deficiency in organism wasn't described	<ul style="list-style-type: none"><li>– lead is toxic for both central and peripheral nervous systems, inducing subencephalopathic neurological and behavioural effects</li><li>– an important poisonous form of lead is its organic compound tetraethyl lead added into petrol as anti-explosive</li><li>– research of the geographic distribution of sclerosis multiplex in England revealed an important association between the distribution of this disease and the Pb content in the geochemical environment. In areas with an increased Pb content in soil and water, the incidence of sclerosis multiplex is three times higher than in areas with normal Pb content</li><li>– in some areas of Armenia with Pb-rich soils, the Pb content in vegetables and fruits exceeds the normal content ten times. People in these areas are considerably affected by nervous diseases (headache, overall weakness, heart pain), which account for over 20 % on the total number of diseases</li><li>– in the 1960s, English scientists were probably the first to note that increased Pb intake by human organism may lead to a higher mortality due to cardiovascular diseases in areas supplied with soft drinking water. Actually, poisoning caused by increased concentrations of Pb in drinking water is nothing extraordinary, notably where lead water pipes are still in use</li></ul>

French chemist Chatin was the first who identified the impact of geochemical factors to human health in 1851 (Dissanayake and Chandrajith, 2009). He finds out that goitre was much more frequent in the Alps than on seaside. He documented this fact with variance of iodine contents in soil and water.

First “geochemical theory” of cancer genesis was published in the years of 1868–1888 in England (Haviland, 1868, 1875 and 1888 in Zýka, 1972). This author drew cancer mortality rate into geological map and found out that regions with high mortality occur predominantly in lowlands seasonally inundated by rivers. In the valley of Thames river cancer mortality increased with depression of terrain towards the river. It was similar in river-basins of rivers Tweed, Tyne, Wear and others. From these findings Haviland

assumed the adverse impact of organic matter rich alluvium to human health. On the other hand it was already known that chalky regions are characterized with low cancer mortality.

The relation between disease and anomalous concentration of trace elements in human organism was confirmed in many cases until now. In some examples a direct correlation was observed between the changes of trace element contents in some organs, tissues or blood and occurrence and duration of disease, respectively. Although some authors are sceptical to this reality, certainly they are facts that could be one step toward finding an importance of trace elements in pathogenesis of certain diseases.

Zýka (1972) divided diseases from point of view of a correlation between trace element contents





in geochemical environment and human health into two groups:

1. Diseases generated or conditioned by the simple deficiency or excess of element in the environment.
2. Diseases generated or conditioned by complex disturbances of geochemical environmental balance.

As for the first group, it maybe said that cases of diseases based on primarily lack of trace elements are rare in highly-developed countries. These diseases are more frequent in poor regions where population depends on food of local provenience, see various avitaminosis, anaemia or rachitis. In some examples there are not situations of the element deficiency but its unavailability for plants from soils.

On the other hand, morbidity in environments enriched with various elements is more frequent. For example high concentration of Cu in the environment is ground of various Cu-toxicities, in environment rich in Mo an endemic podagra is frequent. In areas with high Ni content in soils eye and skin diseases are frequent. Excess of Mn can be also a cause of hypertension. In many cases it's not only simple effect of raised concentration of one element, but complex acting of whole environment, however crucial actor is the concentration of the only one element in geochemical environment.

## Conclusion

In sense of general declaration of WHO, environment takes part in health status of human population with 10–20 %, in contaminated regions more. This proportion is not negligible, hence an appropriate attention is paid to geofactors (namely geochemicals). Important results are achieved in this direction in the world and also in Slovakia. For example, in Slovakia the State Geological Institute of D. Štúr solves

great projects as Geohealth or Life for Krupina (Rapant et al., 2010; Rapant et al., 2014). Results of research focused in this way can reveal “geochemical” causes or geochemically conditioned causes of some diseases. It can have an essential importance in prophylaxis of diseases, namely by the remediation of contaminated areas.

## Acknowledgement

This contribution is the result of the project implementation:

Comenius University in Bratislava Science Park supported by the Research and Development Operational Programme funded by the ERDF Grant number: ITMS 26240220086

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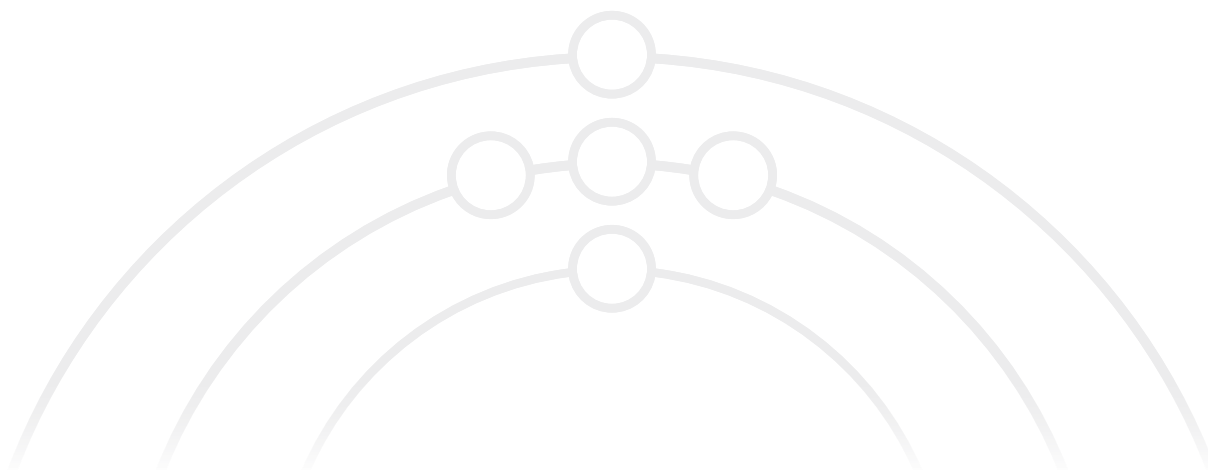
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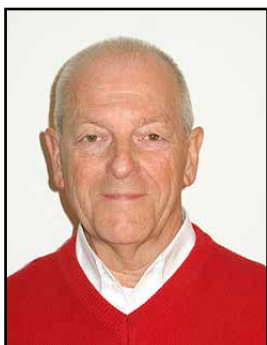




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## Natural spirituality and wholeness of a man and his health

Peter Sedlak, M. D.

### Abstract

*Naturalness* is a givenness, determination of the *universe* which was born and rose naturally, without any human will, consciousness, contribution, approval or endeavour. *Spirit* means an immaterial person, being, an existence and *spiritual* means an immaterial, natural decisive principle, which realizes and reveals itself in a material sphere. A man has all characteristics and laws of *the universal whole*. To understand, know and treat a man means to know the human being in the context of the universal whole. *Spirituality* exists as a natural, primary given decisive reality, autonomic in its laws, superior to psycho-physical organism. In his spirit the man makes decisions about which spiritual values, ideas and forces he places at the top of his personal value system. Either from the world of *negative* values, that systematically, by half-truths and lies, lead him to the health disturbing acts and events. Or from the world of *positive* values, that maintain appropriate psychical and physical health and build a healthy relationship to *the inevitable pain and suffering*.

### Key words

naturalness, spirituality, wholeness, health

*“The key to the knowledge of conscious psychical life is in the sphere of unconsciousness”*. With this sentence Carl Gustav Carus (1789–1869) began his book about soul (*Psyche*, 1846). (Lukasová, p. 11)

Both words *naturalness* and *nativity* originate from Latin words *natura* (*naturalness*) and *natus*

(*born, nascent, determined*). *Naturalness* is a givenness, determination of *the universe, the cosmic whole*, which is unified, organized, led by material and spiritual laws and which was born and rose naturally, without any human will, consciousness, contribution, approval or endeavor. *“Spirit”* means an immaterial person, being, an existence and *“spiritual”* means an immaterial, natural decisive principle. It *realizes and reveals itself in a material sphere*. It directs the material sphere, leads it and unifies it into an integral whole.

On the 20<sup>th</sup> February 2007, an International Conference titled Health is Wealth was held in Bratislava, at which Prof. Felix Unger, the president of the European Academy of Sciences and Arts voiced this very important information: “the European Academy of Sciences and Arts elaborated the European program of healthcare for the European parliament in the form of the report Health is Wealth-Strategic visions for the healthcare in Europe at the beginning of the 21 century. Health is wealth established *on the new paradigm and solidarity*. *Contemporary medicine has no actual valid paradigm*, which is necessary for the entire conceptual work in the field of medical performance. *Thinking* is continually in the range of *the old paradigm*, which was initiated by Le Mettrie as *L’Homme machine (A man machine, 1750)*. A man is not a machine, in which we can repair a malfunction of one organ. *A man is an entity that consists of the soul, spirit and body*. The essence of a man originates from his soul. *Health is the balance of soul, spirit and body*. In disease this balance is disturbed.” (Unger, p. 8)





The new, complex valid *paradigm*, by time and life verified, the fundamental, *basic mental standard* defines a man as an individual – an indivisible whole in the unity of his physical, psychical and spiritual naturalness. This paradigm enables us to think in spiritual categories, to explain and assess spiritual things in a spiritual way, to recognize the natural, spiritual leading principle, dimension, the spiritual person behind the man's biological, physiological and psychical phenomena. However, a man is *only* the most perfect *natural part* of the known *universe*, an intelligent observer, whose life is *absolutely existentially dependent* on this whole, on its singular parts and given laws, and it is *determined and unified by relations*.

A man has all characteristics and laws of the universal whole. To understand, know and treat a man means to know the human being *in the context of the universal whole*.

*The natural universal whole exists as one indivisible, dynamic living process, unified by relations in spiritual and material dimensions.* According to the current science it began 13.7 billion years ago naturally from a singular point by inflationary expansion, which naturally still continues. It is a continuous process, historical, evolutionary, creative, targeted, directed, meaningful, led by the natural immaterial-spiritual powers, values and righteous laws, scientifically objective, driven by non-linear dynamics, quantified in time and space, chronologically in causal connections, in the events of micro-, macro- and megaworld, from the human point of view, the eternal. All its individual material and immaterial spiritual parts, and unique events are integrated *from the very beginning*, unified by relations through the one universal communication network in both the spiritual and the physical dimensions. Life flows in all its complexity through the universal communication network, by countless

routes and connections, with reverse ties, by the most diverse ways and means.

The integral part of the natural universal whole is *the objective spiritual world* of values, thoughts, ideas and powers. The objective spiritual word as a process has its own beginning, dynamics, evolution, discoveries, revelations, discoverers, speakers, prophets, teachers, spiritual movements, schools of spiritual qualities and laws, spiritual essence and value of a man and his life. The truths and experiences verified by thousands of years and the lives of past generations have profiled into religions, teaching, that the natural primary cause of the creation and existence of the universal whole, the lawgiver, the eternal spiritual being is God. He reveals his name: "I am that I am", the Alpha and Omega, the First and the Last, the Beginning and the End (*comp. Ex 3,14, Rev. 22,13*) An absolute singularity, the only point of every divergence and diversity and simultaneously the point of gravitation and convergence of everything in the universal whole. Religions deal with connections, and relations between God and man. Every man carries in himself, in his inside the image of and resemblance to God and as a consequence every man is *naturally* and personally *focused on God*, i.e. he is *religious*. A natural religiosity, as a personal immanent relationship to God is in various measures hidden from the conscious "I", suppressed to spiritual unconsciousness, where the unconscious faith in God is also hidden. This means that a person is constantly in unconscious but intentional relationship with God. (4, Frankl, p. 53) God, as an unconditional spiritual being, with the absolute highest value, is the basic pre-requisite, the condition of all evaluation, measurability and order, the hierarchy of values. All things are relative, conditioned, dependent in relation to the absolute and unconditioned. In every evaluation we always, unconsciously, without





any reflection presuppose the absolute value, the person of absolute value. (5, Frankl, p. 117) A man cannot be a measure of himself. He can be measured only in relation to the absolute, to the absolute value, to God.

*An individual human life*, as a personal life quantum, a unique, unrepeatable life story, in the endless flow of events of the life of mankind, is temporal and determined by indefeasible heritage of the universal whole, from the beginning in physical, psychical, social and spiritual spheres. In the material dimension a human *body is an integral part of the natural, living material cosmic whole*, therefore not free and subject to material and biological laws. In psychical dimension emotionally, mentally, intellectually a person is determined by his character, by an inherited type of mentality and formed by the social environment. Animals tend to show certain psychic expressions, too, and machine can also be intelligent.

Spiritual dimension is specifically human, a spirit in its source, depth and height non-reflective, non-intellective, unconscious. Spirituality exists as a natural, primary given decisive reality, autonomic in its laws, superior to psycho-physical organism through which it realizes itself in psychical and physical performances. The spirit is the essence of a person, a spiritual centre, a personal core, a spiritual-existential middle, around which psychical and physical layers of the human being are concentrated, unified and integrated by spirit into a whole. The spirit of a person is indivisibly united with and in equilibrium to its body by means of nervous, hormonal, vascular and immune systems. (4, Frankl, p. 23) The qualities of spirituality of a person are lawfully objectified in psychical and physical sphere of an individual and are reflected in his adequate health or sickness.

The human being is always *free, deciding and individualized*. In no case is a man unilaterally determined by physical, psychical and social forces. *He is more or less free of them and responsible for his self identity and for his existence*. (5, Frankl, p. 129) The natural essence of the existence of spiritual person and all spirituality is its *transcendence*. It means boundlessness, openness, penetration, spreading and direction of a person out of himself, to something he is not, or to somebody else. It is realized by means of continuous, interactive, by laws directed, immaterial communication and unifying connection, through relations into inside and outside of a man, in physical and spiritual, vertical and horizontal planes. Man is a whole man only to the extent that he conceives himself in the light of transcendence. (6, Frankl, p. 122)

A man is spiritually predetermined qualitatively by *the natural moral law* and directed to the absolute, highest universal spiritual values and powers, without which he is not capable of existence. Every man internally, spontaneously, freely and willingly desires and seeks *love, goodness, wisdom, freedom, truth, righteousness*. In realizing of these values and in filling his existence with meaning, a man is led by *conscience*, which reveals to him things that don't exist yet, that are going to exist, that are supposed to happen, that are spiritually anticipated. In his conscience he listens to the voice of transcendence, which enables him to adapt the generally understood moral law to everyday specific situations and persons. Life based on conscience is absolutely personal. (4, Frankl, p. 31)

The highest meaning, the meaning of the whole is the spiritual and material plenitude of life, *the goodness of the whole* i.e. *common good*, the goodness of *all its parts* from the very beginning till now. The goodness of





the whole is given and designed for the whole, belonging to the whole and is *unified by love* and is *the only one*. Through love all individual parts of the whole have *participation* and *copartnery* in the common good. Good that gets into individual “hands”, to an individual part of a whole, still remains the one common good, the good of a whole. As a part of and the specific manifestation of the common good is general and individual health as a dynamic process of total physical, psychical, social and we can add spiritual well-being. This depends on the individual and collective spiritual orientation, holistic true knowledge, conscious integration with the natural whole and the extent of accepting and living according to the universal righteous spiritual and physical laws. The fundamental basis of man’s spiritual existence is *freedom*, he is *a free responsible being*. This freedom lies exclusively and only in the choice between two possibilities, also *in questions of health and sickness*. Man always decides in his spirit about himself or anybody else. And each time he decides again and again what he is and what he will be in the next moment. He exists as his own possibility, for which, or against which he can decide. He exists authentically, really only in so far as to what extent he takes advantages of possibilities, potentialities “to be different,” “to be healthier,” to liberate himself from, to rise above, to overcome his own seemingly total, fatal psychophysical, social and health conditionality. (6, Frankl, p. 95)

The objective correlate of each spiritual act of decision and freedom is *the objective spiritual world*, which is multireligious and plural in its qualities. A man makes daily in his spirit decisions about which spiritual values, ideas and forces he places at the top of his personal value system. In a specific situation their quality can be *true* or *false* and can lead to the events in which health or disease prevails. In the light

of the universal value of pain and suffering, this indispensable life experience, this personal, familial, social, global “cross to endure” and its solutions, a man has the possibility to choose, in principle, from two spiritual worlds.

Either from the world of *negative* values, thoughts, ideas and forces that systematically, by half-truths and lies, invade the integrity, unity, goodness and plenitude of life of the whole, mankind and a man. This world denies the objective existence of natural autonomous spiritual world. It is characterized by egoism, pride and hatred for God and man. It plunges a man into the darkness of materialism, so as to rid him of awareness of his spiritual naturalness, freedom, dignity, in order to degrade him to the animal material object of nature, to lead him directly or indirectly to the health disturbing acts and events. The natural consequence of this historical power of Evil, with which each man is inevitably in conscious or unconscious relationship, is the personal and global destitution, the spiritual, moral, material and also health crisis. The fruit of the power of evil is pain, suffering, disease, poverty, war, the killing of the innocent. The materialistic medicine in its theory and practice ignores decisive causal spiritual dimension of a man. The materialistic medicine does not know the causes of many diseases, cannot stop the rise of morbidity, does not use healing spiritual power in therapy, does not understand the deeper meaning of the disease, but concentrates *only on the consequences* of the patient’s unhealthy thinking and relations, thus leading a meaningless battle against or escape from pain and suffering.

Man’s other option is the *positive* spiritual world, which lives in consciousness of the spiritual, transcendental essence of human existence, showing God as a primary cause and source of this existence, and simultaneously showing the Good, which is the aim of this





existence, and in which a man finds his meaning and definitive form of perfection. (Šlipko, p. 348) This world accepts pain and suffering, gives them meaning, changes them to joy and sanctifies them. It gives a man the wisdom to know and the power of the good to overcome and remove the evil as a cause of pain, suffering and diseases. This world of positive thoughts, ideas and values maintains appropriate psychical and physical health and builds a healthy relationship to *the inevitable pain and suffering*. Religiousness forms the basis of mental hygiene and is psychotherapeutically effective. It provides one with unique security and rooting, which cannot be found elsewhere, safety and rooting in transcendence, in the absolute. (4, Frankl, p. 68)

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## Acupuncture in space and time and beyond (essay)

Teodor Rosinský, M.D., CSc.

The evolution of mankind and medicine are for us naturally connected with time and space from its beginnings to the present day. All efforts to understand the activities of the body, physiology and pathology are focused on the body and on the phenomena in the body happening in time. This is true for all known more or less systematized knowledge of folk and traditional medical accomplishments and practices. All the attention of above systematized experiences and theoretical files of Mediterranean as well as ongoing European medicine and Eastern Asian traditional medicine in the process of acquiring knowledge and in its theoretical generalizations was focused only on the temporal and spatial base of phenomena occurring in human. Although the expertise gradually expanded and the mechanical point of view that was characteristic for the European medicine 19<sup>th</sup> century and section 20<sup>th</sup> century became more abstract. That led to allow the role of the psyche and though phenomena that were forcibly located into the area of the brain and understood as occurring in discrete time, which was recognized as the only possible time. Even that didn't change rooted general concepts. The development of pharmacotherapy with all of its secondary symptoms was exclusively space-time oriented. By pharmacotherapy instigated "evidence-based medicine" is likewise embodied.

Medical workers oriented on research, particularly practitioners don't manifest the need to watch, perceive and receive results of other researches and scientific findings of other disciplines as an enrichment of their knowledge,

whether from natural or humanistic areas. Narrowly focused medical conservatism should no longer be the dominant attitude. However, in reality the focus of medical thinking, in spite of some declarations like bio-psycho-social-spiritual approach or till now a utopian integrated medicine still maintains at the level of the mechanical perception of the 19<sup>th</sup> century. Not even the development of technical capabilities of diagnosis does a change. On the contrary – it reduces the need of the direct communication contact with the patient and by doing so the diagnostic process stays mechanical. It reduces the options and the efforts of the therapist to wider understand phenomena going on in or around the patient. Ignoring the insights of physics and – paradoxically – just trough physics and innovations of paradigms of psychology leave the medical thinking in preserved condition.

In an attempt to penetrate into the authentic ancient theory in traditional medicine systems, in particular Eastern Asian systems and right into the most sophisticated areas of acupuncture, we also find the space-time understanding of the most known named phenomena such as the flow of Qi along the meridians, the mechanisms of activities if active points are stimulated, the time based rhythms and rules temporal- acupuncture arising from them, the spatial distribution of all characteristics, including their projections to display acupuncture micro-systems, etc. In the second and repeated reading – as often happens with any good literature-however, we find also an additional layer of data, which shows the seeds of understanding of old masters overtaking not only their but also our time. They didn't have





stimuli from other research, only an observation, reasoning, logical thinking, and the ability to philosophical abstraction. That led them to the idea that in reality there is much more going on than it seems in the ordinary superficial understanding. Processes going on in the human body are far more complex than it is possible to perceive by previous but also by present technically highly sophisticated instruments, too. Many processes happen much faster than they could and should. It is not only about natural processes as for example some time ago referred phenomenon of faster optical signal transmission to the consciousness, although conversion speed of conduction impulses through nerve pathways would require a substantially longer time. There are therapeutic processes caused by the informative action, which are – according to our clock time – many times faster as it is necessary for the modification of morphological changes in tissues. It is not about any miracle procedures or methods, but about the natural property of the body, whose internal processes happen due its own internal time or even beyond time in our understanding in certain and apparently legitimate situations. Well, since time and space are nevertheless interdependent as time is measured by movement in space and the movement requires the space, it turns out that the space is not something fixed and necessary. Information has become a decisive factor of energy-mass existence thanks to the research of theoretical and quantum physics but also newer physics of sphere gate and dimensions. The body of the human is also a mass-energy object. Thus discovered facts of the situation on the quantum level as well as other phenomena, including differences of time and space and their absence in certain situations necessarily apply for the body. The knowledge of mankind, although often ignored by renowned and auto-renowned authority pacemakers and those

authorizing research point to a number of facts, which explanation is possible only if we take into account the possibility of certain spatial “holes”, perhaps corresponding to the no-space concept of physicist Bohm and also the time in different assortment of other characteristics such as our familiar sense of the discreet time.

If we want to keep at least a logical way of thinking, so we cannot deny, that if there are such no-time and no-space phenomena, even if only partial, and they manifest everywhere within our reach, they have to be possible directly in the body of a man. Finally, just a lot of such phenomena manifested themselves directly in the body, not somewhere else. It shows, however, that this is not about any anomalous or even pathological phenomena, but a natural part of complex phenomena. From these phenomena we as mankind selected only a part of it for examination, either because we had our senses at hand for it and then later to our senses adjusted technical means or because we weren't able to cover everything at once. So many generations of our ancestors came in the past to the idea that partial knowledge is necessary in order to gradually come to more full knowledge that was more close to the reality.

And so, to stay closer at the topic of this essay, let us think about what kind of contact area we could find between the no-time, no-space and acupuncture in its comprehensive understanding with the integration of latest knowledge not only in physics but instrumental measurements and other more other more recent theoretical and practical results as well. Every nanosecond several billion processes pass in the human organism on quantum, perhaps sub quantum, atomic, molecular, physics-chemical, chemical, biochemical, biological level to the cellular, tissue and organ level.

It requires an immense amount of temporally and spatially exactly targeted algorithms. Every





one of the about 150 trillion cells (according to the latest published estimates) in the body is a very complicated complex of processes and structures. Although there may be a group of thousands of cells with the same “work content”, the current need of the organism though leads to individual differences between cells in the current scope and intensity of their activity. This is actually a nonlinear dynamics of activities here, which are characterized by stochastic processes in terms of W. R. Ashby. The time-space coordination of these activities is necessary. The mutual informational interconnection must seem to us as a necessity, too. Such a complex system is vulnerable. In the case of a disruption it would lead to the negative domino effect. The system must be protected against such a disruption and that requires numbers of prepared safeguarding algorithms.

Any impulses required to initiation of normal basal, dynamically displaying needs or protection from the disruption but also other procedures for liquidation of pathological processes require an immediate signalling. It must, however, be faster as the possibility of signalling via nerve pathways allow. Therefore, it probably has to be a mechanism which does not require the time or space, those are the only information, which are in their spreading not bound by time or space. In the same time information manifest in the space, but only in the form of by them initiated action or phenomenon. Acupuncture as a methodology for initiating balance in the body affects information processes due specific and focused encouragement of the creation or activation of information needed for the initiation of required algorithms. Thus, it intervenes in the no-time events. Experience has shown that the point is also a deeper intervention of acupuncture as helper who initiates natural but by pathological condition affected possibilities of manipulating the internal clock, which is

outwardly manifested as an acceleration of the therapeutic effect.

I remember, for example, performances by Professor Nguyen Tai Thu. During the ward round in Department of acupuncture in Ha-noi the professor directly did acupuncture for elderly patients with upper limb paresis in a sense of hand falling in the wrist. He pierced a long needle in the affected wrist from outside to inside, than he moved the wrist of the patient like a hinge up and down. He removed the needle after about 20 seconds, and the patient immediately and permanently moved his wrist without restrictions. As if the needle passed out of the space of wrist bones and during the short time forced the paretic nerves and atrophied muscles to normalize. I saw from the immediate closeness about 50 of such interventions and even not in one case happened, that there wasn't the full effect. Similar effects occurred in other paretic conditions. However, in addition to the mechanical performance of needle of its own there was a much focused mental intervention of the therapist that was apparently an essential component of information operations. Well, and this was what old masters had in their mind in their comments in first acupuncture books. The concentration of attention on one's own thinking and creating exactly targeted information is the most essential traditional medicine message for all types and varieties of medical procedures. To neglect traditional message at present alongside with above mentioned impulses from physicists does not prosper medicine.

Nowadays it is already according to physicists the human mind that creates information spreading beyond time and space and affecting the structure of the energy- mass. Experimental verification was positive. If concentrated thinking with focused intention activates the matter structure, there's no doubt about the possibility





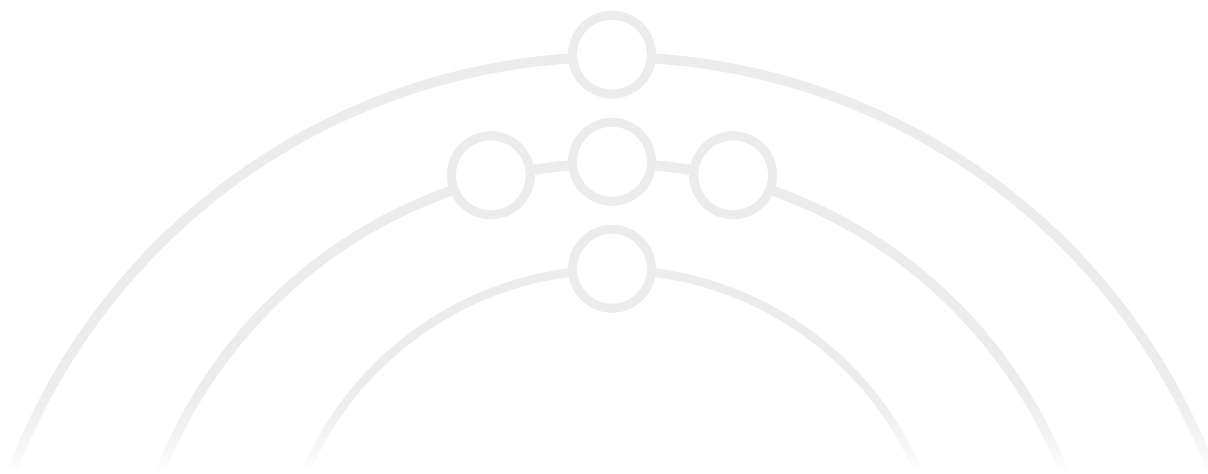
of a targeted influence. Of course, the process itself has to be carried out according to the laws of physics. By informative action it is possible to formulate only the target condition, in acupuncture it is only the appropriate focus relevant for the active point.

It is perhaps understandable, that this is not just acupuncture specificity. Although thanks to mechanisms of acupuncture and the possibility of using a wider range of functions of active points it is better measurable. In other medical procedures it would be needed to consider specified and of course for the patient individualized informative

intentions, but nothing stands in the way of using capabilities of the organism in this respect.

In this short essay I did not want to promote new perspectives- they are indeed freely accessible and not at all new, but to remind of what every practitioner recognized. Even more, the essay was aimed to encourage especially the younger generation of professionals to research these phenomena as well. Surely it has the potential to spread possibilities of knowledge and practical use for the good of our patients.

**Teodor Rosinský, M.D., CSc.**







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# **Acupuncture and Natural Medicine**

## **6/2014**

