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THE ROLE OF SEP (SKIN ELECTRICAL PARAMETERS) IN THE SPA MUDTHERAPY

A. Pisani¹, V. I. Valenzi², M.C. Lucchetta¹, P. Avino^{2 3}, J.
Campanella¹, G. Mennuni², B. Sordi⁴, A. Serio¹, A. Fraioli¹

¹Scuola di specializzazione in Idrologia Medica Università di Roma "La
Sapienza" ²Bioscience Department "Telesio Galilei Academy"

³ISPELS Roma ⁴ Terme di Chianciano

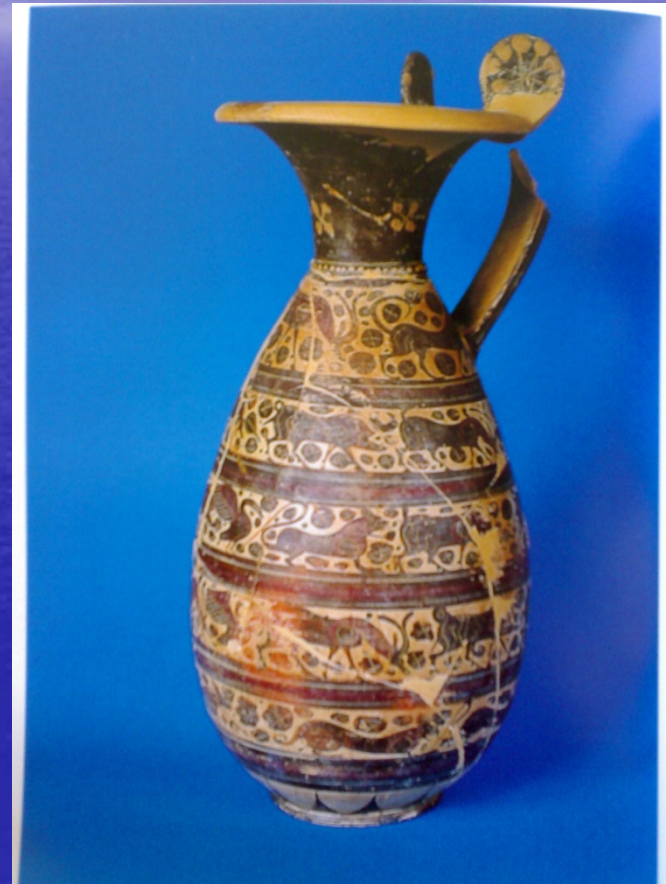
Chianciano Terme Spa

Centro Sillene is a spa in Chianciano Terme, in Tuscany, Italy, where from several decades many people affected by chronic constipation and liver diseases go to do mud bath and drink mineral water.



The Origins

The use of the waters in this zone had its beginnings in antiquity. Etruscans and Romans already utilized Acqua Santa, Sillene and Fucoli waters, and built temples and luxurious thermal buildings in the area.



The Twentieth Century

The great development of Chianciano's mineral water therapy activity began in 1915, when the Commune decided to hand over the management of the waters to the "Società delle Terme di Chianciano".



Chianciano "healthy liver"

Thanks to the managing class, to the always more numerous scientific publications that spreaded the results of the treatments and to the choice of focusing, from the promotional point of view, on the mineral water-therapy-specialization, and on the treatment of hepatic disorders- that, at the end of the Forties, was to create the slogan "Chianciano, healthy liver"- the fame of Chianciano grew rapidly in the following years.

The therapy at Chianciano

Nowadays, Chianciano 's therapy includes:

1. Mineral water for chronic constipation (Fucoli water)
2. Mineral water and mud for hepatic disorders (Acqua Santa water);
3. Mud and bath for osteoartosis, (Sillene water);
4. Aerosols and inhalation for respiratory diseases (Acqua Santissima water);
5. Carbo-gaseous bath for circulation's diseases (Sillene water);

What we did

Our work is focused on the hepatic mud therapy, consisting in an application, on the hepatic zone, of a hot mud for 15 - 20 minutes. This therapy proved to give very good clinical results in a large spectrum of liver and gall bladder diseases , like chronic hepatitis, functional disorders of the biliary tract and functional dyspepsia.

Mud's activity

Mud's action seems to be the increase of liver functionality and biliary downflow, with a general spasmolytic activity; how this action could occur, it's up till now a mystery .



The birth of a Mud

Chianciano hepatic mud comes from the interaction of a solid component, the *virgin mud*, with the rich mineral water Sillene (T 38,5 °C, fixed residue 2956 mg/l, bicarbonate 816 mg/l, sulphate 1648 mg/l, calcium 680 mg/l, magnesium 150 mg/l). They are mixed and let stand in a tank for six months and the final product is superior in quality to the initial components.



Laboratory data

Some clinical and laboratory data show that Mud increases ACTH and Beta endorphins serum levels, but nobody knows how it acts on hepatic function.



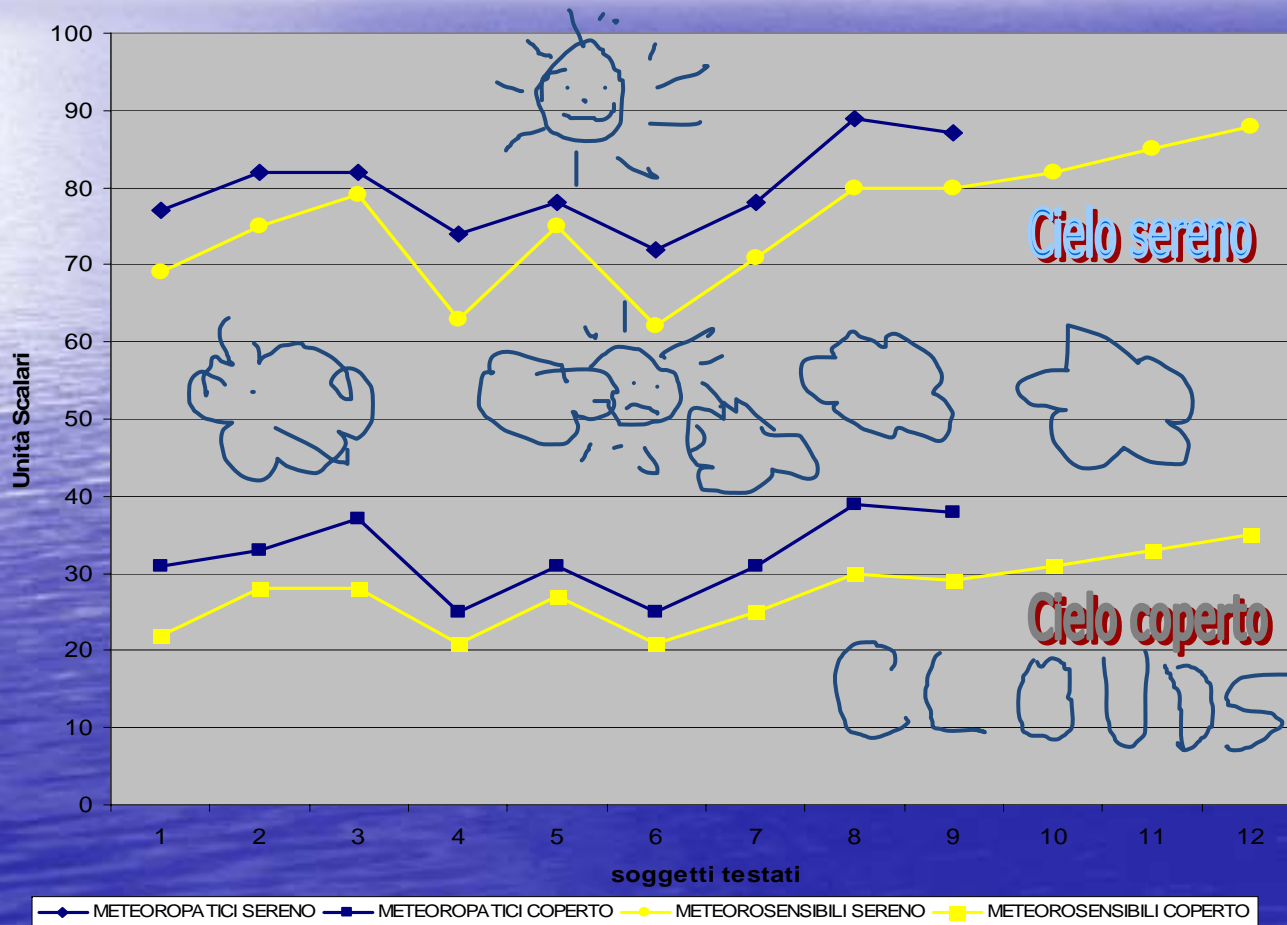
A possible explanation

Some experimental data on 12 patients give a new line of research in SPA therapy, connected to some change in bioelectrical function of organs and of the whole body: we found a SEP (Skin electrical parameters) variation!

What are SEP?

SEP or BAP are electrical measurements made, with an ohmmeter, on the skin Chinese meridians, studied as a circuit with variable resistance, in answer to physical signals, measurable (meteorological, magnetic and electric fields, drugs, etc) and not measurable (vector potential, etc.).

SEP and Meteoropathies



Ohm	Valore US
10 000	91
27 000	78
39000	70.5
47000	66.5
95000	50
100 000	48
130000	43
200000	32
220 000	29
300000	24
560 000	14
1000 000	8

Evidences

Measures highlighted in subjects with meteoropathies and various pathologies, that the electrical resistance increased in physical electric circuits with a medium of about 43 scale unites of SEP corresponding to 130,000 Ω .

Results

After administration of a coherent therapy, we saw a resistance fall in medium at $39,000 \Omega$ (70 us), with an improvement of bioelectric performance due to an increase of physical electric currents, in accordance with Ohm's law,
 $I = V/R$

Biological effects

Power in biological systems changes, following the Ohm law $W=V \times I$, with functional correlations (performance status, immunological status, muscle power, pain, inflammation, allergy, dyspnea, etc.)

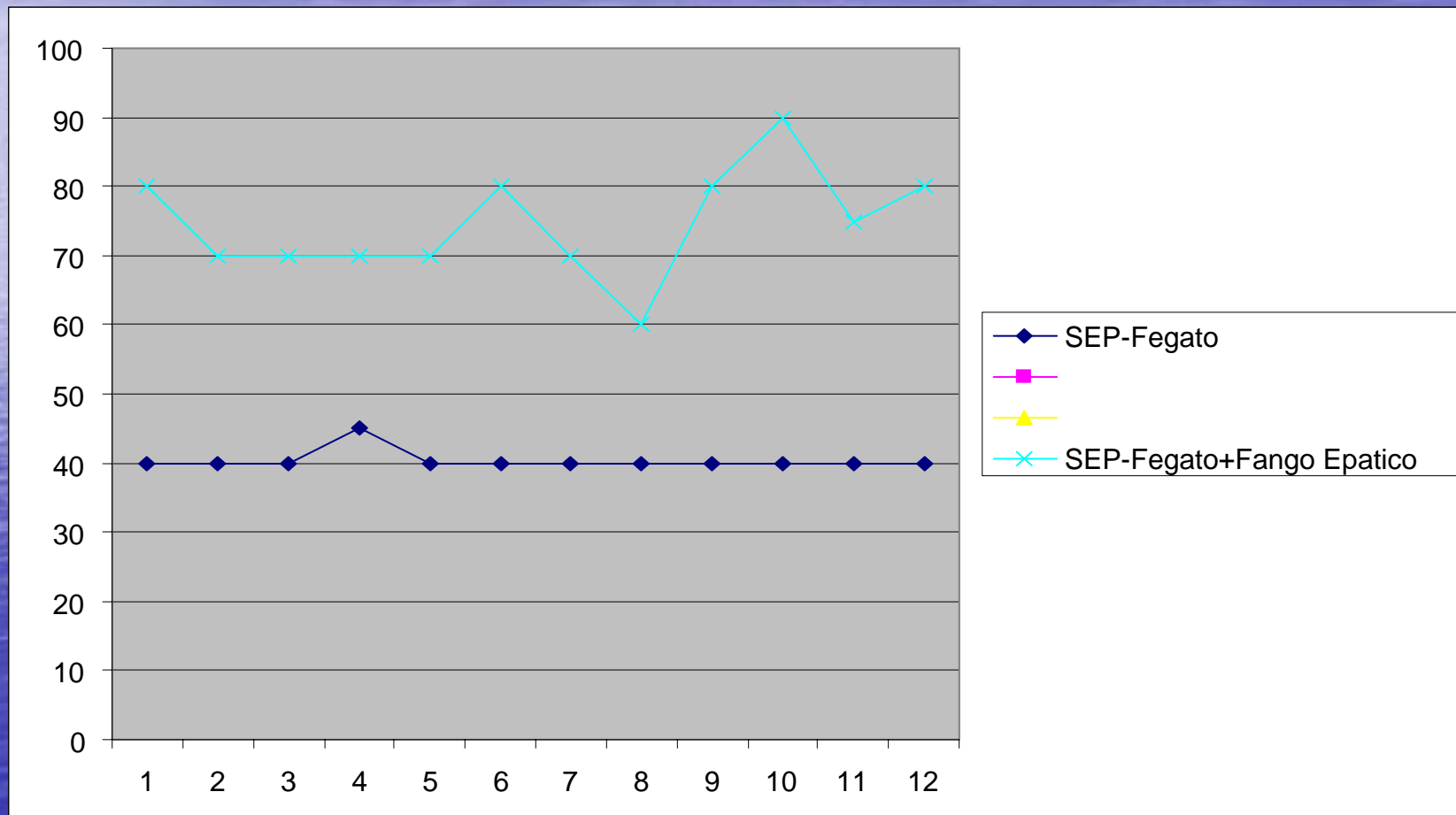
New data

We observed in the measures that Mud used for liver diseases in effect increases the bioelectrical status, with a fall of resistance, increase of current and of the bioelectrical power $W=V \times I$.

Liver mood and SEP

The following graphics shows this strict correlation between liver mood and improving of bioelectrical parameters, and performance status and liver function, as patients that every year come back in Chianciano referred (80/90%).

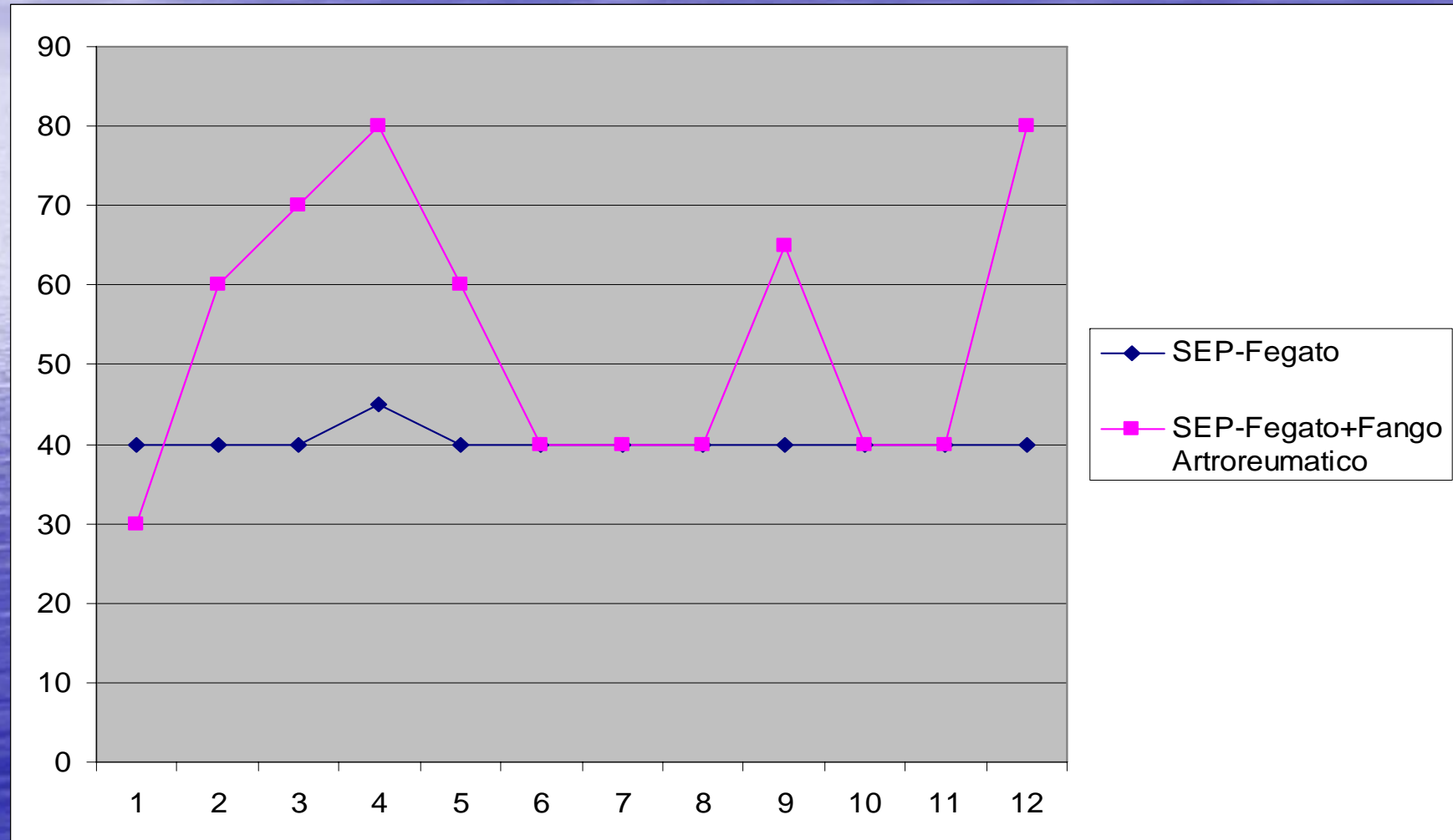
Hepatic Mud and SEP



Muds are not all the same!

The application of a mud specific for arthrorheumatic diseases shows otherwise that in half of patients we have no bioelectrical improvement, as we can see in the following graphics.

Arthrorheumatic mud and SEP



Research project

Further researches are of course necessary to understand the complex mechanism of mud's action. We have the project to study a group of fifteen patients, by the bioelectrical point of view, before and after administration of a complete cycle (15 days) of hepatic mud and, after a wash out period, arthrorheumatic mud.

Conclusions

Mud spa therapy could act in our body on a Sensitive Bioelectrical System that answers to Ohm's Law.



Thanks
for your
attention!