

EVALUATION OF A METHODOLOGY FOR THE STUDY OF BIOLOGICAL EFFECTS OF ANTALGIC ELECTROSTIMULATION (PHYBACK, PBK-2C) ON VEGF ACTIVATION

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VEGF (Vascular Endothelial Growth Factor) is the most powerful and better studied endogenic activator of angiogenesis and vasal walls homeostasis. It is proved in literature that the exposition of endothelial cells to electric fields of small entity directly stimulates the VEGF release. This pilot study is aimed to a research approach with molecular biology methodologies which enables the exploration of biological effects of antalgic electro stimulation (PhyBack, PBK-2C) on VEGF expression.

Protocol:

On a healthy voluntary subject, administered with an ES session (Protocol 34, "Microcircle Activation", dorsal region) 30 minutes long, serial samplings of venous blood have been done before treatment, after 15 minutes from the beginning, at the end and after one hour from the end.. (t0, t15, t30, t90). These samples have been collected with and without heparin/EDTA for the production of PBMC (Peripheral Blood Mononuclear Cells) with and without the interference of coagulation activation. The levels of mRNA VEGF specific have been pointed out with RT-PCR and Southern Blotting.

Results:

No differences have been noticed in the levels of expression of VEGF mRNA between the PBMC got from plasma and from serum. In both series an evidence was shown of an increase in time of VEGF mRNA levels, which suggests the opportunity of investigation with methods that enable a more accurate quantitative evaluation.