

Ageing process and sapropelic mud from Techirghiol lake

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Aging represents the expression of a progressive functional imbalance of the neuroendocrine system and antioxidant status.

The aim of this study was to investigate some determining factors: insulin 1 growth factor (IGF-1), serum cortisol, dehydroepiandrosterone-sulfate (DHEA-S), glutathione-peroxydase (GPx), that seem to play a major role in the beginning and evolution of the biological ageing process and their behaviour under the effect of peloidotherapy.

Material and method: This research is a prospective clinical study, developed between Jul 2013-Feb 2016 and included a total number of 1377 patients but only 52 patients of this group met the inclusion and exclusion criteria. They were evaluated at admission, at the end of treatment, one and 4 months after the treatment. The batch was divided in two groups, the first one with 37 patients underwent mud bath at thermoneutral application and 15 patients underwent old mud ointment. All patients received 3 additional electric procedures, one regional massage and kineto-therapy session per day.

Results: For the group who received cold mud ointment, the results showed a statistically significant increase ($p=0.044$) of IGF-1, the variation of this hormone demonstrating the positive effect of the balnear treatment with contrasting factors in the biological ageing process. For the group who received mud bath, the results showed an increase of IGF-1 close to the statistical significance ($p=0.067$). Increasing tendency at the end of treatment, shows, as a whole, the general positive effect of the balnear treatment in the ageing process.

Conclusion: The IGF-1 low activity is associated with a significant morbidity in adults, with a high risk of cardiovascular diseases, diabetes, osteoporosis and neurodegenerative diseases, with certain implication in ageing modulation. There is one hypothesis that maximum human life expectancy depends on the strict regulation of the GH-IGF axis and on maintaining the optimal action of IGF-1¹. The optimal activity of this hormonal axis is involved both in the extension of life expectancy and in the increased resistance to the oxidative stress².

References:

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