SYSTEMIC REGULATION OF PHYSIOLOGICAL FUNCTION AND REPRODUCTIVE MEDICINE: CURRENT PROBLEMS

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Reproductive medicine has been one of the most evolutionary fields of medicine over the last years. A wide spectrum of knowledge coming from large studies has offered a deep insight over the clinical, surgical and embryological aspect of treatment of infertile couples and individuals. In this prospective, it has become a prominent need to ensure the systemic regulation of physiological functions in order to increase the success of reproductive treatment.

A wide search of all current available literature was performed regarding the systemic regulation of physiological functions that can interfere with human reproduction and success of reproductive treatment.

The factors that are currently suggested to be regulated to mostly females but also males during the initial investigation and the following work up in infertility cases are thyroid function, iron sufficiency (ferritin, haematocrit), vitamin B12, vitamin D, calcium, glucose metabolism and insulin levels, hypophysis function (prolactin), folic acid, adrenal and gonadal function, prostaglandins, omega-3 fatty acids, lipids, body fat index and anti-oxidants. Last but not least, stress levels should be addressed and most importantly cytokines and auto-antibodies along with local infections of genital tract.

The health professionals that are implicated to fertility investigation and treatment should evaluate the sufficiency of all the aforementioned factors through thorough screening. Consequently, all necessary medication, surgery and supplements should be provided and evaluation should be repeated to ensure the efficacy of corrective measures.

In case of increased body mass and fat index a diet should be preceded with or without medical treatment as metformin and inositol before the initiation of any fertility treatment. During the last years alternative treatments as acupuncture and bio-magnetic control has been added but with no clear effectiveness. In any case, the psychological aspects should not be disregarded as they influence reproductive pathophysiology and the role of psychiatrist mainly through psychanalysis becomes more eminent.

Auto-antibodies are mostly associated with thyroid function and cytokines seem to play a local role affecting mostly implantation and development of embryos in uterus. However, there are still available treatment with prednisolone and other more sophisticated factors as intralipids. Finally, the endometrial receptivity analysis reveals another aspect of the physiological window of implantation and associated problems as recurrent implantation failure.