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TITLE

ROLE OF CARNITINES AND NUTRIENTS IN OOCYTE QUALITY AND PREGNANCY SUCCESS.

AUTHOR/S

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ABSTRACT

The metabolic compounds, antioxidants and micronutrients present in the diet help to reduce the effects of free radicals formed during cellular metabolic processes. ROS levels are exaggerated in conditions of environmental and stressful conditions which can cause damage to the reproductive organs, eggs and general physiological processes of the body involved in the reproductive processes. The free radicals can also undermine the genomic stability and increase chances of the aneuploidy.

The carnitines, as well as other compounds in the diet, reduce effects of free radicals. They stabilize the proteins, genome and cellular membranes as well. Studies suggest that a state of carnitine deficiency may exist with increased number of follicles produced during ovarian stimulation in IVF procedures. Recent research also suggest that strategies exist to reduce the appearance of aneuploidy and developmental disorders using nutrients such as B vitamins, folic acid and other certain compounds. These strategies would also improve the probability of healthy pregnancy and the fetus, especially in women with compromised metabolism present in diabetes and PCOS. The role of micronutrients, antioxidants and minerals have influence on cellular metabolism. Especially mitochondrial function is being recognized as a factor that strongly influence egg quality and pregnancy outcome. There is growing evidence that L-carnitine, acetyl-L-carnitine and micronutrients may improve both oocytes quality and success of pregnancy.

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