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**Abstract 1**

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- Paper Presentation

General Subject of Presentation: Future Medicine

**Intermittent Fasting Dietary Restriction as Neurohormetin for Healthy Aging**

Key words: Intermittent fasting- Dietary Restriction, Healthy Aging, Neurohormesis

Dietary restriction (DR) has become one of the most powerful tool and active area of research in realm of biogerontology. Life long DR is known to have many potential beneficial effects on brain function as well as delaying the onset of neurological diseases. Previously, we reported significant amelioration of glial and neuronal plasticity proteins and oxidative stress by late onset short term DR regimen in 24 months old animals, which otherwise showed age associated decline. In the present investigation, we have further studied the effect of intermittent fasting dietary restriction (IF-DR) regimen on motor coordination and cognitive ability. These animals were further used to estimate protein carbonyl content and mitochondrial complexes I-IV activity in different regions of brain and peripheral organs and degree of age related impairment and the reversion by late onset short term IF-DR was compared with their levels in 3 month old young rats. The results of improvement in motor coordination by Rota Rod test and cognitive skills by Morris Water Maze (MWM) in IF-DR rats was found to be positively correlated with decline in the oxidative molecular damage to proteins and enhanced mitochondrial complex IV activity in different regions of aging animals. The work was further extended to study the expression of synaptic plasticity related proteins such as synaptophysin, calcineurin and CaM kinase II to explore the molecular basis of IF-DR regimen to improve cognitive function of aging brain. These results suggest that late onset IF-DR regimen have the potential to retard age associated detrimental effects, which involve decline in cognitive and motor performance as well as oxidative molecular damage to proteins.