

PC011

Investigation of the Effect of Curcumin Treatment on Total Oxidant and Total Antioxidant Status in The Gastrocnemius Muscle in Aged Rats

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AIM: Curcumin is a natural polyphenol with strong antioxidant properties as well as anti-inflammatory and anti-tumor effects. With these properties, curcumin appears to be protective in aging and age-related disease models. Aging is known to increase the level of oxidative stress at most organ and tissue levels. In this context, we aimed to show whether curcumin application has an effect on reducing oxidative damage in skeletal muscle which is one of the tissues with high aerobic metabolism.

METHODS: A total of 18 Wistar male rats (young: 3 months old, aged: 22 months old) were divided into 3 groups; 1) Young-Control (n=6), 2) Aged-Control (n=6), 3) Aged-Curcumin (n=6). Young and aged control groups were treated with PBS (phosphate buffered saline) containing 4% DMSO (dimethyl sulfoxide) and curcumin, which was prepared by dissolving with 4% DMSO-PBS, was administered intraperitoneally at 30 mg/kg/day for 21 days. Total oxidant status (TOS; $\mu\text{mol H}_2\text{O}_2$ Equiv./L) and total antioxidant status (TAS; mmol Trolox Equiv./L) were measured by spectrophotometric method using appropriate commercial kits in the gastrocnemius muscles of all rats. The ratio of total oxidant status to total antioxidant status, i.e. the oxidative stress index (OSI), was also calculated. ANOVA, LSD were used for statistical analysis and $p < 0.05$ was considered statistically significant.

RESULTS: Compared with the young control group, TAS significantly decreased in the gastrocnemius muscles of aged rats ($p=0.001$) and TOS increased significantly ($p=0.01$). Curcumin treatment significantly increased TAS in aging ($p=0.01$). OSI, which is accepted as an indicator of oxidative stress level, increased significantly with aging ($p=0.001$), while curcumin treatment decreased OSI ($p=0.033$).

CONCLUSION: Curcumin administration in aging seems to be effective in reducing oxidative stress in the gastrocnemius muscle.

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Keywords: Aging, oxidative stress, gastrocnemius, curcumin

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The Effect of Hypnosis on Respiratory Function in Addicted to Cigarette Smoking

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AIM: Most notably chronic obstructive pulmonary disease (COPD) and smoking brings about a variety of diseases contributing to lung cancer. Our aim is to investigate the effect of hypnosis on pulmonary functions in case smoker with spirometry.

METHOD: Our research was done on a 53-year old patient with COPD who has been smoking a pack of cigarettes a day for 30 years and suffering from exertional dyspnea for last 5 years. Spirometry was applied on the male patient consulted for smoking cessation by taking advantage of hypnotherapy. Using fast hypnosis technique, the patient was put into trance. Positive imaginations and breathing techniques were exerted during hypnosis. Spirometric measurements were recorded before and during hypnosis. The man was woken up by using count down method. These sessions were repeated once a week for three weeks. Teaching autohypnosis and breathing techniques, this method was done in home in intervals between sessions.

RESULTS: In our study, FEV1: %41, FCV: %69, FEV1/FVC: %49.7, FEF25-75: % 10.9 were recorded before hypnosis. In the first session, the measurements during hypnosis were FEV1: %45, FVC: % 70, FEV1/FVC: % 50.6, FEF25-75: %11.5, in the second session FEV1: %49, FCV: %72, FEV1/FVC: % 53, FEF25-75: %12, and in the third session FEV1: %50, FVC: %75, FEV1/FVC: %55, FEF25-75: %14 were found. At the end of the third week the number of daily smoking fell by half.

CONCLUSION: Improve in respiratory functions was recorded once the patient went under hypnosis process. Exerting positive imaginations on patient by hypnotherapist leads to an elevation in the blood circulation in limbic region there by the endorphins level goes up and unrest feelings reduce. Relaxation occurs in pulmonary muscles. Our research can be the first to show the impacts of hypnosis on dyspnea rehabilitation in smoker patient suffering from COPD.

Keywords: Hypnosis, Respiratory Function Test, Cigarette, COPD, Asthma