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Research article

from September
2014**The Effect of Regular Exercise on Development of Sarcoma Tumor and Oxidative Damage in Mice Liver**

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ScholarGoogleMaria Sasvari¹, Albert W. Taylor², Dezso Gaal³, Zsolt Radak¹,

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Regular exercise has the capability of decreasing the incidence and progress of certain cancers. Murine sarcoma, (S-180) cells were transplanted to control (TC), exercise trained (10 week, 1 hour day, 5 times/ week) mice, which had the swimming training terminated at the time of transplantation (ETT), and also to a group of mice that continued to exercise during tumor bearing (ETC). Continuous exercise decreased the size of tumor by about 50%. The accumulation of reactive carbonyl groups (RCD), were not significantly different for any group. The oxidative modification of proteins in the liver of the animals decreased in the exercise- trained non-tumor bearing group compared with control or tumor-bearing groups. No significant alteration was detected in the level of mutant p53. The data indicate that regular exercise retards the development of sarcoma solid tumors and it seems unlikely that massive uncompensated oxidative stress takes place in the tumor.

Key words: Exercise, cancer, oxidative stress, DNA damage, reactive carbonyl derivatives

Key Points

- Regular exercise has a capability to reduce the incidence and progress of certain cancers.
- Free radicals could act as a promoters and suppressors of cancers.

- Exercise can suppress the development of Sarcoma, but the underlying mechanisms are not known.

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