

Effect of Feeding Buffaloes Milk Rich in Conjugated Linoleic Acid (CLA) on Tumor Bearing Mice (*in vivo* study)

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It has been speculated that CLA may positively influence the tumor suppressor gene PTPRG associated with mammary tumors, hence may exhibit some anti-cancer properties in experimental animal models.

Ninety female mature Mice were used in two experiments, 45 mice in each experiment, to investigate the effect of feeding pasteurized buffaloes milk rich in CLA on life span and survival rate in mice with induced mammary tumors. Milk was represented at 10% of diet, calculated on dry matter basis.

In the first experiment, the mice were induced with EACC tumor cells, then divided into three equal groups. Group 1 was fed the basal diet with no added milk (negative control), Group 2 was fed the basal diet, but with added normal milk (positive control), and Group 3 was fed the basal diet with added milk rich in CLA (the experimental group). In the second experiment the same design of experiment 1 was applied but the animals were firstly fed with the diets for 4 weeks before tumor transplantation to serve as a cancer model.

Results from the first experiment showed that life in Group 3 was longer than the other two groups. While all the animals in Groups 1 and 2 died after 12 and 15 days, respectively, animals in Group 3, survived for 23-days from cancer induction. Data obtained from the second experiment confirmed findings obtained in the first experiment. The life span was longer in the third group which was fed milk rich in CLA for 4 weeks prior to induction of tumor cells, compared to the other two experimental groups. No clear prevention effect was noticed hence, no great changes were found in this experiment compared with the first experiment.

It was included that Feeding buffaloes milk rich in CLA to female mice, with induced mammary tumors, at 10% of their daily dry matter intake may have some anti-cancer properties. It extended the life span, and improved survival rate, compared to the control groups.

Key words: buffaloes, milk, CLA, tumor cells, mice.

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