First data in the effect of Araraquara soybean yogurt on Buenos Aires tumor-cell lines.

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Among the known environmental factors that influence cancer, diet presents itself as an important variable. Soy is a legume that contains isoflavones, among them genistein, a potential protector against breast cancer. It is found naturally in plants and belongs to the "phytoestrogen" class: substances that are similar to estrogens, which are able to protect against hormone-dependent chronic diseases, such as cancer. In this study we evaluated experimental metastasis and subcutaneous tumors of six murine adenocarcinoma after i.v. inoculation: LP07, a lung adenocarcinoma (the tumor that kills the most men in the world) and 5 mammary adenocarcinoma (LM3), the type which kills the most women in the world. LM3 is semi-differentiated, highly metastatic in lung and tumor-draining lymph nodes, and grows similarly in males and females; the highly undifferentiated LM2 presents an extremely rapid growth rate, very poor metastasis and growth similar in both males and females; LM38 has 2 sub-populations: epithelial and myoepithelial cells; LM05 is estrogen-dependent, also with 2 sub-populations, one of them with estrogen receptors; LM05-EC2, is a sub-population from LM05, showing estrogen receptors. Soy yogurt was obtained by adding two lactic bacteria, Enterococcus faecium CRI 183 and Lactobacillus jugurti 416, to soy milk.
Yogurt was supplemented with isoflavones (1.125g de isoflavin®, Galena). The in vivo effect of soybean yogurt + isoflavones was administrated nightly by gavage. The results obtained demonstrated that the experimental metastasis in lung (post iv inoculation) produced a significant increase in LM3, a slight rise in LM2, and decrease in LM38 and LP07 after ingestion of supplemented yogurt. Among subcutaneous tumors, yogurt produced only slight, non-significant differences (increase in LM2 and LM38 and decrease in LM3). LM05 and LM05-EC2 did not grow in animals. This work demonstrated that yogurt supplemented with isoflavones presented different effects, depending on the line and the anatomical sites of inoculation.

Key words: adenocarcinoma, soy, fermentation, isoflavones, breast cancer, lung cancer