



САНКТ-ПЕТЕРБУРГСКИЙ ГОСУДАРСТВЕННЫЙ  
МЕДИЦИНСКИЙ УНИВЕРСИТЕТ  
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**Initial report on the anti-carcinogenic effects of Balance of Nature  
Conducted by Dr. Andrea, Department of Research  
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## **LYMPHOME SERIES**

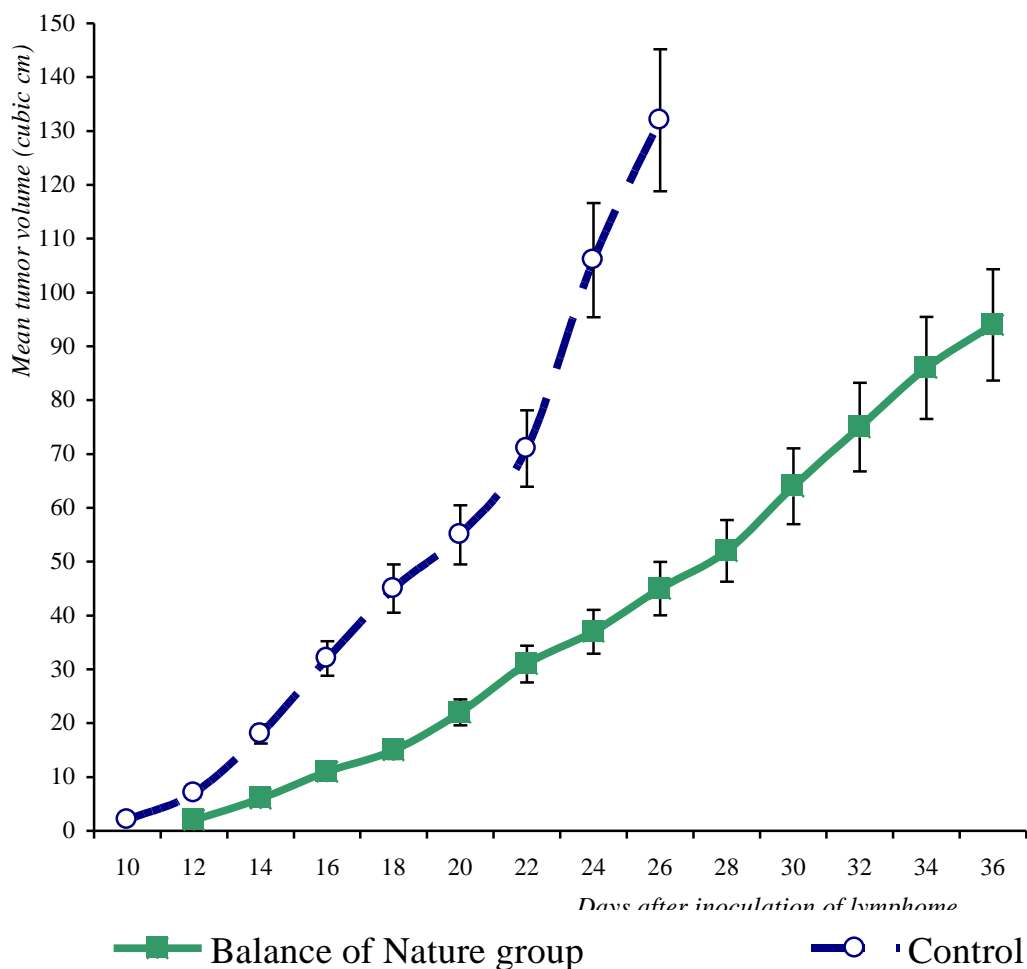
Pliss' lymphome (Lymphosarcoma of Pliss) is a rat transplantable tumor that has been discovered by and named after Russian Professor Pliss of the Petrov Oncologic Research Institute in St. Petersburg, Russia, about 30 years ago and has been successfully used in experimental oncology since that time. It is thoroughly studied, i.e. all the parameters of its growth, namely the method and the amount needed for inoculation for significant engraftmentability, the time when the primary node develops, the rate of growth (dynamics) and the lifespan after the inoculation of the tumor are well known as well as the effects of various factors upon these parameters. Any factor decreasing the percent of engraftment, extending the term of the primary node development, slowing down the growth rate and increasing the lifespan after the inoculation should by default be considered anticancerogenic.

We decided to study the effect of administration of Balance of Nature before and during the development of Pliss' lymphome upon the aforementioned parameters in order to find out whether this supplement possessed anticancerogenic properties.

The animals of this series – male Wistar rats with body mass of 160-180 g (experimental group: n=14) have been getting Balance of Nature for 10 weeks when all of them have been inoculated with homogenate of Pliss' Lymphome dissolved in saline solution in a dose (~100000 tumor cells) that usually produces tumor growth in 80-90% of intact rats. On the same day 10 rats to be used as Controls that have not been getting Balance of Nature have been inoculated in the same manner. The experimental rats continued to get Balance of Nature all through the next 6 weeks while the Controls did not.

The inoculated animals have been studied (visually and by palpation) on a daily basis during the first week after the inoculation in order to detect the day when

they developed the primary node of the tumor. In the Control group 9 animals out of 10 developed the tumor (engraftability = 90%); the primary node was detected on the 5<sup>th</sup> to 7<sup>th</sup> day. In the experimental group 10 out of 14 animals developed the primary node (engraftability = 70%) with a 1-2 day delay vs Control: on the 7<sup>th</sup> to 9<sup>th</sup> day. Their mean lifespan after inoculation of the lymphome was longer ( $36,1 \pm 4,1$ ) than that of the Control animals ( $25,2 \pm 3,4$ ) as well as the dynamics of tumor growth was slower (see table and diagram). For example, on the 16<sup>th</sup> day after inoculation of the lymphome the mean tumor volume of the experimental group was  $11,1 \pm 0,6 \text{ cm}^2$  vs  $31,8 \pm 1,3 \text{ cm}^2$  in the control group; on the 20<sup>th</sup> day –  $21,8 \pm 1,3 \text{ cm}^2$  vs  $55,3 \pm 4,2 \text{ cm}^2$  and on the 26<sup>th</sup> day after inoculation –  $45,0 \pm 3,7 \text{ cm}^2$  vs  $131,5 \pm 7,6 \text{ cm}^2$



## Tumor growth dynamics

Table

**The effects of administration of Balance of Nature supplement for 10 weeks prior to and 6 after the inoculation of Pliss' lymphome on the parameters of tumor growth in male Wistar rats**

Group	Number of animals	Day of manifestation of primary tumor node	Number of rats developing tumor	Lifespan after inoculation of the lymphome in the rats manifesting tumor
Balance of Nature	14	8,1±1,2	10	36,1 ±4,1
Control	10	5,7±0,8	9	25,2±3,4

Therefore we may say that the administration of Balance of Nature supplement for 10 weeks prior to and after the inoculation of Pliss' lymphome decreased the percent of engraftment, delayed the term of the primary node development, significantly slowing down the growth rate and increasing the lifespan after the inoculation.

*COMMENT:* I will have to look for parallels but so far I can only compare the anticarcinogenic effect of Balance of Nature with factors as powerful as hypophysectomy and adrenalectomy. On the other hand the latter can be only used in experiment while Balance of Nature is quite physiologic. I will soon have the results of biochemical tests including the measurements of the hormone levels and the immunologic ones. Besides I hope to use the morphological data soon. I will send the macro- and microphotographs then. However the results I am sending are promising enough themselves.

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