

## IN MEMORIAM

## Outstanding Cancerologist Leon M SHABAD and his Scientific Activity (100<sup>th</sup> anniversary)

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Professor Leon Shabad was born in Minsk (Republic of Byelorussia) on January 19, 1902. His origins were related with Vilnius – it was the native land of the family, and some relatives lived there.

Prof. Shabad studied medicine in St. Petersburg and there began his scientific work. Even in his student years Prof. Shabad was very interested in pathology and at the beginning of his activity chose experimental oncology as the object of his special interest. He was one of the first to study the carcinogenic activities of various tars. The first research work was the study of induced lung tumours – adenomas – of mice. The histogenesis and structure of these tumors, described by him, became a classic model in the experimental oncology. Later the carcinogenicity and mechanisms of action of different carcinogens were investigated by him and his collaborators. He formulated morphological criteria for precancerous states and described the consecutive stages in the development of neoplasia. Also, Prof. Shabad concentrated his attention on prevention of cancer by limiting human exposure to carcinogens. He opened up new areas of research in chemical carcinogenesis, mainly in the field of analyzing the industrial and environmental carcinogenic substances.

Prof. Shabad was the leading scientist in oncology in the former Soviet Union. He was also recognized worldwide as a most outstanding cancerologist. In 1962 he was awarded (together with W Hueper) the United Nations Organization prize for "Outstanding Research on Cancer Causation and Prevention". Besides this, he took part in the creation of International Agency for Research on

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Cancer. The life of Prof. Shabad was a long way of research and finding, happiness and misleading, which always follow a true scientist.

Among his numerous publications are nine books on different problems of experimental oncology, cancer pathogenesis, prevention etc. One of them – a book entitled “Precancer Experimental – Morphological Aspects”, published in 1967. On the basis of material collected by the author and his collaborators was the problems of cancer pathogenesis, detection and prevention were discussed. Prof. Shabad also described the precancerous changes taking place in the development of the experimental malignant tumours of various sites as well as of similar changes found in man.

Prof. Shabad put forward ideas concerning the endogenous formation of carcinogenic substances. These data were summarized in the monograph “Endogenic Blastomogenic Substances” (1969).

The book “Methods of Detection and Investigation of Carcinogenicity of Chemical Substances” was published in 1970. In this monograph general data about chemical blastomogenic substances of different kinds were presented. The dose-response effect, the relation between chemical structure of substances and their blastomogenic action, the general principles of the arrangement of experiments on animals, the possibilities of using experimental results in human pathology for cancer prevention were discussed.

Also important was a book entitled “Circulation of Carcinogens in the Environment”, published in 1973. Prof. Shabad presented the work of his own and his collaborators as well as literature data on various chemical carcinogens which pollute the human environment.

On the basis of his own 50-year research experience in the field of experimental oncology and pathology he pub-

lished a book “The Evolution of the Concepts of Blastomogenesis” in 1979. This monograph was dedicated to the evolution of the ideas on tumour etiology and pathogenesis.

These and other books written by Prof. Shabad were used by oncologists, toxicologists, pathologists, biochemists, hygienists and other persons involved and interested in cancer research, treatment and prevention. Though in our days new molecular biology methods are developed and used, these books have not lost their significance as classical works on problems of carcinogenic substances and carcinogenesis.

More than 400 publications, including 9 monographs, are the heritage of Prof. Shabad.

Prof. Shabad created several laboratories in Moscow and Leningrad. He was an excellent teacher and had numerous disciples not only in former Soviet Union but also abroad. Apart from the numerous members of Shabad’s school in Russia and other former Soviet republics his collaborators were the famous cancerologists such as Prof. K. Lapis in Hungary, Prof. I. Chernozemsky in Bulgaria and many others. He willingly assisted the scientists creating the new laboratories, among them the Vilnius Oncology Institute. The group of scientists who considers themselves as Shabad’s pupils work in the Clinic of Cancer Research and Prevention at the Oncology Institute of Vilnius University. Prof. Shabad developed a basis for future scientific efforts, and formulated the principle of cancer prevention, which is important nowadays.

As remembered by Shabad’s co-workers, he required enormous efforts from himself and from others to reach the goal, because only in this way is it possible to do the best.

*Prof. L. Shabad died in 1983.*