

DANIIL F. GLUZMAN (ON THE 80TH BIRTH ANNIVERSARY)

In June 2016, Professor Daniil Fischelevich Gluzman, well-known Ukrainian oncohematologist, celebrates his 80th anniversary.



D.F. Gluzman graduated from Bogomolets Kyiv Medical Institute in 1960 and started his medical career as the pediatric physician in Ovruch Pediatric Hospital, Zhytomyr region. Since 1962, he started his research activity as the research fellow at the Institute of Experimental and Clinical Oncology (nowadays — R.E. Kavetsky Institute of Experimental Pathology, Oncology and Radiobiology of the National Academy of Sciences of Ukraine) — the Institute where he worked for many years under the supervision of its first director, the famous Ukrainian oncologist and pathophysiological Academician R.E. Kavetsky, the Institute where Daniil Fischelevich was inspired from the first days by the creative atmosphere of scientific work, the Institute to which Daniil Fischelevich has been committed himself for life. His first research started at the Department of Leukemogenesis Mechanisms headed by Academician Z.A. Butenko, where Dr. D.F. Gluzman upheld his thesis for candidate's degree in 1967, and doctoral thesis in 1975. And in 1982, D.F. Gluzman, by then — Doctor of Medicine and Professor, headed the Laboratory of Cytochemistry and Immunocytochemistry (nowadays — Department of Oncohematology) adhering to the ideas and traditions that were set forth by his famous teachers.

Prof. D.F. Gluzman is well known by his pioneering research in developing the cytochemical methods for studying the progenitor cells in various hematopoietic lineages. His pivotal studies on identification of the hematopoietic stem cells in the yolk sac have been widely recognized providing the basis for the advanced study

of the relationship between the malignant transformation in ontogenesis and the origin of leukemias in the children. Prof. D.F. Gluzman with his colleagues has convincingly demonstrated that hematopoietic progenitor cells believed morphologically unidentifiable possess the marker cytochemical features inherent to the mature cells of the specified hematopoietic lineages. These data were in line with ground-breaking research on stem cells initiated at our Institute as early as in 70-s of XX century by the leaders of Ukrainian oncology science Academicians R.E. Kavetsky and Z.A. Butenko. In particular, the findings demonstrated by Prof. D.F. Gluzman represented the theoretical grounds for the use of cytochemical methods in delineation of various forms and cytological variants of acute leukemias resulting from the transformation and clonal proliferation of various categories of hematopoietic progenitor cells. And in fact, the cytochemical studies of blood cells have been widely used in differential diagnosis of various forms of acute leukemias appearing valuable for their classification. The results of this research outlined in a series of the monographs “Diagnostic Cytochemistry of Hemoblastoses” (1978); “Cytochemistry and Immunocytochemistry of Malignant Lymphoproliferative Diseases” (1982); “Embryonic Hemopoiesis and Hemoblastoses in Children” (1988) are widely quoted by those engaged in cytochemical study of blood cells.

In the Department headed by D.F. Gluzman, in 80-s of XX century the team of Dr. S.P. Sidorenko (now corresponding member of the National Academy of Sciences of Ukraine) and other young at that time research fellows being inspired by the hybridoma technology boom produced the first-ever monoclonals in Ukraine against differentiation and activation antigens of the cells of human hematopoietic and lymphoid tissues. The novel immunocytochemical techniques for the detection of the wide array of the antigens in blast cells in the smears of blood and bone marrow, fine-needle punctates of lymph nodes and tumors have been elaborated and improved allowing for high quality and precision of diagnostic examinations based on immunophenotyping of leukemic cells. The theoretical foundations and general principles of applying cytochemical and immunocytochemical markers in the diagnosis of various forms of leukemia and malignant lymphoma have been elaborated. Furthermore, in a series of studies the role of lectin receptors differing in carbohydrate specificity in the maturation of hematopoietic cells of various origins

has been elucidated. The biotinylated neoglycoprotein probes were used in the original studies of endogenous lectins in normal and leukemic hematopoietic and lymphoid cells.

The practical implementation of the complex of modified cytomorphological, cytochemical and immunocytochemical techniques has been advantageous for improving the level of diagnosing the malignant tumors of hematopoietic and lymphoid tissues in Ukraine to meet the requirements of the up-to-date classifications used in Western countries. The innovative theoretical developments of the Department headed by Prof. D.F. Gluzman laid the groundwork for the large-scale practical activities in diagnosing leukemia and lymphoma among the patients referred by medical institutions from Kyiv and all over Ukraine. The extensive network connecting the Department of Immunocytochemistry (nowadays — Department of Oncohematology) and dozens of clinical facilities all over Ukraine proved to be the effective tool for assisting the clinicians-hematologists in diagnosing precisely various hematological malignancies. Annually, diagnostic tests using modern technologies are provided in more than 1500 patients from 20 regions of Ukraine. Of particular note is the assistance provided to the children with cancer pathology. The state-of-the-arts in modern diagnosis of leukemias as well as the long-term practical experience of the Department headed by Prof. D.F. Gluzman were summarized in the series of monographs comprising “Immunocytochemistry and Monoclonal Antibodies in Oncohematology” (1990), “Immunocytochemical Diagnosis of Malignant Serous Effusions” (1993), “Laboratory Diagnosis of Oncohematological Diseases” (1998), “Leukemia Diagnosis. Atlas and Practical Handbook” (2000) becoming the guidebooks for clinicians-hematologists and the specialists in experimental and clinical oncohematology in Ukraine. Prof. D.F. Gluzman was the first to develop and apply methods for identification of micrometastases and tumor cells in bone marrow, lymph nodes, serous exudates and cerebrospinal fluid by applying immunocytochemical techniques and monoclonal antibodies against organ- and tissue-specific, oncofetal, tumor-associated antigens, cytoskeletal proteins. Actually, Prof. D.F. Gluzman created the unique school of thought for cytologists and oncohematologists in Ukraine.

In post-Chernobyl period, the Department of Oncohematology headed by Prof. D.F. Gluzman has been engaged in diagnostic examination of Ukrainian patients suffered from the consequences of Chernobyl catastrophe with the particular focus on diagnosing leukemias in Chernobyl clean-up workers and the children from the most affected regions. The results of the long-term research by D.F. Gluzman and his colleagues have drawn the attention of scientific community to the real situation with hematopoietic malignancies in relation to low doses of radiation. After Chernobyl, the Reference Laboratory of R.E. Kavetsky Institute has become an internationally known center.

It is of high importance that such research was supported by the specialists in oncohematology from many countries. In 1998–2003, the study of leukemias in clean-up workers was performed within the framework of joint Ukrainian-Japanese group on study of leukemia and lymphoma. This international laboratory performed the cytological and immunophenotypical study of leukemias in Chernobyl clean-up workers and compared their forms and cytological variants to that occurred in Hiroshima and Nagasaki many years after the atomic bombing. These data were presented at the Radiation Effects Research Foundation (RERF, Japan) in 1999 and 2000 and summarized in a series of publications in international journals. For many years, D.F. Gluzman collaborated as hematologist with French Center “Children of Chernobyl” providing expertise in diagnosing the hematological diseases among the children from the regions of Ukraine contaminated with radionuclides. Prof. D.F. Gluzman was involved in the activity of the international committee of the experts-hematologists set up for verification of the diagnoses of oncohematological pathologies within the framework of the collaborative research program sponsored by USA. Taking into account the high quality of diagnosing leukemias in children, the Department headed by Prof. D.F. Gluzman was selected as the only team from Ukraine for the project “My Child Matters” sponsored by Sanofi-Aventis and International Union Against Cancer in 2006–2007. In the setting of this project, the large assistance was provided for the improvement of diagnosing cancer and leukemia in the children of our country.

Prof. D.F. Gluzman is a scientist of permanent creative endeavor. He put forward the novel approach for studying radiation-associated leukemias, in particular myelodysplastic syndromes and chronic lymphocytic leukemia in post-Chernobyl setting. Recently, the findings on radiation-associated leukemias have been summarized in the collective monograph “Ionizing Radiation and Oncohematological Diseases” (2016, Academician V.F. Chekhun and Professor D.F. Gluzman, eds.) commemorating 30th anniversary of Chernobyl catastrophe. Based on the comprehensive analysis of malignantly transformed leukemic cells, the novel approaches to classification of hemoblastoses and models of hematopoiesis are under way.

Prof. D.F. Gluzman authored 12 monographs and more than 450 scientific papers on various aspects of oncology and hematology, made numerous presentations and reports around the world. He has supervised 4 doctoral and 15 Ph.D. theses. Prof. D.F. Gluzman dedicates a lot of time to publishing activities. For many years Prof. D.F. Gluzman is Associate Editor (now Chairman of the Editorial Board) of the international journal “Experimental Oncology” and Deputy Editor-in-Chief of the journal “Oncology”. It may be said without exaggeration that not only the issues of the journals but many other publications of our Institute have been edited thoroughly by such a qualified specialist as Daniil Fischevich. Prof. D.F. Gluzman is also member of the

Editorial Board of journals “Hematology and Transfusiology”, “Laboratory Diagnosis”, Member of Ukrainian Society of Hematologists, Ukrainian Society of Oncologists, Associate Member of the International Network of Cancer Treatment and Research (INCTR).

Prof. D.F. Gluzman combines his research activity with tremendous practical and organizational work aimed at organization of highly qualified laboratory assistance in diagnosing patients in Ukraine with pathologies of hematopoietic system. A series of booklets entitled “Seminars in Hematopathology” (25 issues in total) initiated by Prof. D.F. Gluzman and his colleagues highlights the recent achievements and novelties in diagnosing oncohematological diseases. As a good tradition, the annual scientific-and-methodological seminars on the urgent problems of cytochemistry and immunocytology of hemoblastoses organized by Department of Oncohematology gather dozens of specialists in hematology and laboratory. The recent monographs “Diagnostic Oncohematology” (2011) and “Modern methods of laboratory diagnosis of oncohematological diseases” (2014) give a big boost for the improvement of skills of Ukrainian specialists in hematology.

Prof. D.F. Gluzman received many honors during his long career. He is the Honored Master of Science and Technology of Ukraine. In 2001, D.F. Gluzman was among the first scientists awarded the memorial R.E. Kavetsky Prize of the National Academy

of Sciences of Ukraine for the series of scientific works “Novel approaches and technologies in diagnosis and treatment of cancer”. Recently, D.F. Gluzman has been among the team awarded the State Prize of Ukraine in Science and Technology for the series of works “Monoclonal and recombinant antibodies for experimental biology, medicine and veterinary” (2015).

The prominent professional skills of Daniil Fishlevich are accompanied by his outstanding personal traits. It is not too much to say that he stimulates and inspires the dozens of scientists who work with him over the years. We all appreciate his passion, his drive, and his willingness to stand up and fight for what he believes.

The administration and the staff of R.E. Kavetsky Institute of Experimental Pathology, Oncology and Radiobiology of the National Academy of Sciences of Ukraine, Editorial Board, all his colleagues have a great pleasure to congratulate Prof. D.F. Gluzman on the occasion of his 80th birthday and to wish him good health, inexhaustible energy, long years of further activity as a scientist and new scientific achievements.

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of R.E. Kavetsky Institute of Experimental
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