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## ANATOLIY HNATYSHAK – THE PROMINENT SCIENTIST OF LVIV SCIENTIFIC ONCOLOGICAL SCHOOL\*

(TO HIS 100TH ANNIVERSARY)

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In the current context, research is mostly done by research groups. Unlike formal research institutions (laboratories, institutes, universities), informal unions of researchers around the leaders who could generate new ideas and ensure their implementation proved to be most effective. This is what the Lviv school of oncology, founded in 1945 by Professor H. P. Kovtunovych, developed by his disciple Professor A. I. Hnatyshak, and kept up by their followers B. T. Bilynsky, V. R. Savran, T. H. Fetsych, N. A. Volodko, Yu. M. Sternuik and others, is like. Professor H. P. Kovtunovych carried on the traditions of his Teacher M. M. Petrov that consisted in an integral combination of clinical practice and deep understanding of theoretical oncology. He was interested in the problems of theoretical and clinical oncology. Many specialists know his investigations on tumor etiology (the impact of radiation factor), radiation therapy and surgical treatment methods, particularly ablastics and antiblastics. The most prominent representatives of Professor H. P. Kovtunovychy's Lviv school of oncology include Professor A. I. Hnatyshak, doctor of medical sciences V. D. Keleman, Professor A. M. Serednytskyi, Professor B. V. Kacharovskyi, and Professor H. A. Ivashkevych, and others. He prompted one of his youngest colleagues, B. Bilynsky, to engage into the research of postoperative tumor relapse. Further history of the Lviv school of oncology is tightly connected with the name of Professor Anatoliy Ivanovych Hnatyshak. He graduated from the Lviv Medical Institute in 1940. After the WWII, Anatoliy Hnatyshak returned to his Alma Mater as a teacher. It was already at that time that he started a serious research at Professor Kovtunovych's department. In 1950, he presented his candidate dissertation entitled "Cancer and tuberculosis". In 1959, he presented his doctoral dissertation entitled "Thyroid cancer". Using its materials, he published a monograph in 1963; for many years, it remained the only

book on the topic in the former USSR. The following persons have become prominent representatives of his school of oncology under Professor A. I. Hnatyshak's leadership: Professor B. T. Bilynsky, Professor V. R. Savran, Professor V. I. Dryzhak, Professor V. M. Masliak, Professor R. D. Huliayeva, candidate of medical sciences R. I. Sendetska, candidate of medical sciences L. R. Kryshtalska, candidate of medical sciences M. T. Kordoba, candidate of medical sciences D. S. Kaystrukova, candidate of medical sciences Z. A. Sluzhynska and others. From 1986 to 2004 the department of oncology was chaired by Professor H. P. Kovtunovych's and Professor A. I. Hnatyshak's disciple B. T. Bilynsky, doctor of medical sciences (1972), professor (1978), honored master of sciences and engineering of Ukraine (1994), and an academician of the Academy of Sciences of Higher Education of Ukraine (1993). He promoted democratic reformation of the healthcare system in Lviv region, co-authored the project of reorganization of the first Ukrainian hospice, and developed and implemented a screening system for early diagnostics of cancer among the employees of big industrial enterprises. He is the author of over 500 publications including 11 monographs and 3 textbooks, among them the book "Oncology". It is the first textbook in this area for doctors and students written in Ukrainian (it was republished four times – in 1992, 1998, 2004, and 2007) and summarizes the educational experience of the department. He also prepared the manual "Modern schemes of polychemotherapy of the main diseases in adults and children". He was the advisor of 5 doctors and 22 candidates of medical sciences, including Professor Ya. M. Romanyshyn, Professor T. H. Fetsych, Professor Sterniuk, doctor of medical sciences O. O. Halay, doctor of medical sciences N. A. Volodko, Professor O. V. Lukavetskyy, O. V. Shyriy, Ya. V. Shparyk, V. A. Dukach, Yu. Yu. Oliynyk, T. B. Kachmar, V. V. Savran, M. M. Mryglotsky, N. O. Lukavetskyy, S. V. Prymak and others.

Over the last 5 years, under the supervision of Professor Bilynsky's disciple Professor T. H. Fetsych, the department of oncology of the Danylo Halvtsky Lviv National University has been actively involved into the elaboration of the new methods and techniques of treatment of locally advanced forms of cancer with different localization, which is proven by the articles and patents on application of intraoperative hyperthermic intraperitoneal chemoperfusion for treatment of patients with stomach cancer accompanied by peritoneal sarcomatosis, as well as on application of hyperthermic intraperitoneal chemoperfusion in cases of chemoresistant ovary cancer; the search for prognostic factors in esophagus and cardia surgery; the study of the role of separate cell-molecular factors of the micro-surrounding in progressing of malignant tumors of the female reproductive system. The Lviv school of oncology is broader than the department of the same name. It has been uniting the staff of the base institution, Lviv State Oncology Regional Treatment and Diagnostics Center (LSORTDC), where candidates of medical sciences D. S. Kaystrukova, M. M. Yolych, R. I. Sendetska, R. M. Tsiolko, and I. H. Hipp have been working. The head of the department of head and neck tumors O. O. Halay presented his doctoral dissertation. A number of doctors keep doing their research. The head of the department of chemotherapy, docent and candidate of medical sciences Ya. V. Shparyk has established cooperation with counterpart institutions in Europe and the USA. Due to this, one of the most powerful centers of chemotherapy in Ukraine has been established. The center of chemotherapy cooperated with the researchers from the Institute of Hematology and Transfusiology, the candidate of medical sciences V. M. Matlan and doctor of medical sciences N.

I. Kitsera, whose doctoral dissertation was dedicated to hereditary tumors. The Lviv school of oncology has been cooperating closely with oncologists from out capital city. B. T. Bilynsky is a professor emeritus of the R. E. Kavetskyi Institute of Experimental Pathology, Oncology, and Radiobiology of the National Academy of Sciences of Ukraine.

Key words: Anatoliy Hnatyshak, oncology, scientific school.

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## АНАТОЛІЙ ГНАТИШАК – ВИЗНАЧНИЙ ВЧЕНИЙ ЛЬВІВСЬКОЇ НАУКОВОЇ ШКОЛИ ОНКОЛОГІВ\*

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Львівська наукова школа онкологів заснована 1945 р. професором Г.П. Ковтуновичем, реалізована його учнем професором А.І. Гнатишаком і продовжена їх послідовниками Б. Т. Білинським, В.Р. Савраном, Т.Г. Фецичем, Н.А. Володько, Ю.М. Стернюком та ін. Професора Г. П. Ковтуновича цікавили проблеми теоретичної та клінічної онкології, зокрема питання етіології пухлин (вплив радіаційного фактора), променевого і хірургічного лікування (абластики та антибластики). Найяскравішими представниками Львівської онкологічної школи професора Г. П. Ковтуновича стали проф. А. І. Гнатишак, д. м. н. В. Д. Келеман, проф. А. М. Середницький, проф. Б. В. Качаровський, проф. Г. А. Івашкевич та ін. Подальша історія Львівської онкологічної школи тісно пов'язана з іменем професора Анатолія Івановича Гнатишака. На кафедру професора Г. П. Ковтуновича Анатолій Іванович прийшов після війни. У 1950 р. захистив кандидатську дисертацію на тему «Рак і туберкульоз», у 1959 р. – докторську дисертацію на тему «Рак щитоподібної залози», за матеріалами якої у 1963 р. видав монографію, яка протягом багатьох років залишалась єдиною в СРСР книгою на цю тему. Відомими представниками онкологічної школи, яку очолював проф. А. І. Гнатишак,  $\epsilon$  проф. Б. Т. Білинський, проф. В. Р.Савран, проф. В. І. Дрижак, проф. В. М. Масляк, проф. Р. Д. Гуляєва, кандидати медичних наук Р. І. Сендецька, Д. М. Шиян, Л. Р. Криштальська, М. Т. Кордоба, Д. С. Кайструкова, 3. А. Служинська. З 1986 по 2004 р. кафедру онкології очолював учень професора Г. П. Ковтуновича та професора А. І. Гнатишака професор Б. Т. Білинський – доктор медичних наук (1972), професор (1978), академік АН Вищої школи України (1993), заслужений діяч науки і техніки України (1994). Професор Б. Т. Білинський сприяв демократичним перебудовам у системі охорони здоров'я, обгрунтував і заклав основи організації першого в Україні «Госпісу»,

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розробив і впровадив у практику скринінгову систему ранньої діагностики раку серед працівників великих індустріальних підприємств. Він є автором понад 500 наукових праць, у тому числі 11 монографій і 3 підручників, серед яких «Онкологія» – перший підручник з цього фаху для лікарів і студентів українською мовою, що витримав чотири видання (1992, 1998, 2004, 2007). Підготував 5 докторів і 22 кандидати медичних наук, у тому числі проф. Романишина Я. М., проф. Фецича Т. Г., проф. Стернюка Ю. М., д. м.н. Галая О. О., д. м.н. Володько Н. А., проф. Лукавецького О. В., кандидатів медичних наук Ширія О. В., Шпарика Я. В., Дукача В. А., Олійника Ю. Ю., Качмара Т. Б., Саврана В. В., Мриглоцького М. М., Лукавецького Н. О., Примака С. В. Протягом останніх п'яти років під керівництвом учня проф. Білинського Б. Т. проф. Фецича Т. Г. активно провадяться пошук і розробка нових способів лікування місцевопоширених форм раку різної локалізації, що підтверджують статті і патенти про застосування інтраопераційної гіпертермічної внутрішньочеревної хіміоперфузії в лікуванні хворих на рак шлунка з канцероматозом очеревини, застосування гіпертермічної внутрішньочеревної хіміоперфузії при хіміорезистентному раку яєчника, пошук прогностичних факторів у хірургії пухлин стравоходу і кардії, вивчення ролі окремих клітинно-молекулярних факторів мікрооточення в прогресії злоякісних пухлин жіночої репродуктивної системи. Львівська онкологічна наукова школа має значно ширшу "географію", ніж одноіменна кафедра. Вона об'єднувала і об'єднує працівників базової установи – Львівського державного онкологічного регіонального лікувально-діагностичного центру. Завідувач хіміотерапевтичного відділення ЛДОРЛДЦ доцент, к. м. н. Шпарик Я. В. налагодив співпрацю з однопрофільними установами Європи та США, створивши хіміотерапевтичний центр, що є одним з найпотужніших в Україні. Львівська онкологічна школа активно співпрацює зі столичними онкологами. Б. Т. Білинський  $\epsilon$  почесним професором Інституту експериментальної патології, онкології і радіобіології ім. Р.Є. Кавецького НАН України.

**Ключові слова:** Анатолій Гнатишак, онкологія, наукова школа.

Research work is usually done at official institutions: research laboratories, institutes, departments of universities. This way, science enters the system of bureaucratic management that does not foster free creativity. Therefore, the researchers have long since started joining around informal authorities establishing certain circles that under favorable conditions turned into the so-called "schools of thought". Such voluntary associations became the highest form of cooperation of the researchers. They could not be administratively created. They are generated spontaneously and succumb depending on the research climate in the institution. In 1945, such school appeared in Lviv due to the fact that Professor H. P. Kovtunovych, the disciple of the famous oncologist M. M. Petrov, moved to this city, and Lviv already had historical preconditions for the establishment of such research association.

The history of the Lviv school of oncology is closely connected with two internationally renowned names. Back in 1929, Marie Skłodowska Curie, the two times Nobel Prize winner, presented to the branch of the Polish Cancer Institute



Professor Havrylo Porfentiyovych Kovtunovych

working in Lviv 80 mg of radium, which she discovered. It was a truly royal present. During the WW II, that radium was hidden and started being used for the benefit of people after the end of the war.

In 1945, Professor Havrylo Porfentiyovych Kovtunovych, a disciple of one of the founders of the clinical oncology in the world and a prominent scientist M. M. Petrov, came to Lviv and headed the department of surgical propaedeutics, but, understandably, most important areas of the department's activity included the research in clinical oncology. Professor H. P. Kovtunovych carried on the traditions of his Teacher M. M. Petrov that

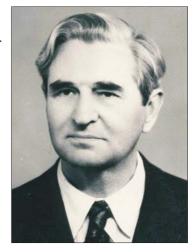
consisted in an integral combination of clinical practice and deep understanding of theoretical oncology. He was interested in the problems of theoretical and clinical oncology. Many specialists know his investigations on tumor etiology (the impact of radiation factor), radiation therapy and surgical treatment methods, particularly ablastics and antiblastics. Ten candidate and three doctoral dissertations were presented under Professor H. P. Kovtunovychy's scholarly supervision. The most prominent representatives of Professor H. P. Kovtunovychy's Lviv school of oncology include Professor A. I. Hnatyshak, doctor of medical sciences V. D. Keleman, Professor A. M. Serednytskyi, Professor B. V. Kacharovskyi, and Professor H. A. Ivashkevych, and others. He prompted one of his youngest colleagues, B. Bilynsky, to engage into the research of postoperative tumor relapse.

H. P. Kovtunovych's surgical clinic actively developed surgical approaches to the treatment of oncological patients. In particular, in the 1950's they actively studied surgical techniques of pancreas cancer treatment (pancreaticoduodenal resections), which became the topic of Professor H. P. Kovtunovych's and Associate Professor V. Keleman's monograph "Surgery of pancreas head cancer" (Kyiv, 1963, in Russian). Unfortunately, young and full of creative ideas associate professor V. D. Keleman died prematurely and did not witness the publication,

and Professor H. P. Kovtunovych died of leucosis soon after the publication of the book (apparently, this was the result of continuous work with radiation sources).

Further history of the Lviv school of oncology is tightly connected with

the name of Professor Anatoliy Ivanovych Hnatyshak. He was born on 20 February 1917 in the village of Bachów (now the territory of Poland) in the family of a Ukrainian priest. He finished a gymnasium in Peremyshl and graduated from the Lviv Medical Institute in 1940. After the war, Anatoliy Hnatyshak returned to his Alma Mater as a teacher. It was already at that time that he started a serious research at Professor Kovtunovych's department. In 1950, he presented his candidate dissertation entitled "Cancer and tuberculosis". In 1959, he presented his doctoral dissertation entitled "Thyroid cancer". Using its materials, he published a monograph in 1963; for many



Professor Anatoliy Ivanovych Hnatyshak

years, it remained the only book on the topic in the former USSR.A number of thorough researches in the field of oncology and general surgery were done under his supervision. Professor A. I. Hnatyshak was the first person in the USSR who managed to concentrate teaching of oncology to students at a separate department, which he established in Lviv in 1966. It was on 05 October 1965 that the Lviv oncologic dispensary moved to the new premises and became the basis for the newly established department, and received the title of "clinical", which facilitates a more in-depth research into different branches of oncology.

For 20 years, Professor A. I. Hnatyshak had been doing active research and teaching. Its extent and value are proven by over 120 publications, as well as by the supervision over eight doctoral and 40 candidate dissertations. The following persons have become prominent representatives of his school of oncology under Professor A. I. Hnatyshak's leadership: Professor B. T. Bilynsky, Professor V. R. Savran, Professor V. I. Dryzhak, Professor V. M. Masliak, Professor R. D. Huliayeva, candidate of medical sciences R. I. Sendetska, candidate of medical sciences L. R. Kryshtalska, candidate of medical sciences M. T. Kordoba, candidate of medical sciences D. S. Kaystrukova, and candidate of medical sciences Z. A. Sluzhynska. In 1975, "A textbook in general and clinical oncology" (Moscow) was

published. It became the first textbook on general and clinical oncology for students. The popularity of this book is proven by its republication in 1989. The immense methodological experience in teaching oncology, which the department accumulated under the leadership of Professor A. I. Hnatyshak was reflected in another textbook for students entitled "Clinical oncology. A practical course" (Lviv, 1980, co-authored by B. T. Bilynsky, V. R. Savran, B. P. Sterniuk, and M. D. Shyyan).

The department of oncology continued original research, particularly, on approaches to the pharmaceutical treatment of cancer patients: "Individual pharmaceutical treatment of oncology patients" (Kyiv, 1985) co-authored by B. T. Bilynsky and V. R. Savran. The oncologists of Ukraine and other countries know well the works by Anatoliy Hnatyshak on the problems of breast cancer, hormonotherapy, and the use of the indicators of sex chromatin in treatment of breast cancer, which were covered in the respective chapters of "An Oncologist's Handbook" (Kyiv, 1975), as well as his works on determination of the tumors' sensitivity to pharmaceutical treatment.

From 1986 to 2004 the department of oncology was chaired by Professor H. P. Kovtunovych's and Professor A. I. Hnatyshak's disciple B. T. Bilynsky, doctor of medical sciences (1972), professor (1978), honored master of sciences and engineering of Ukraine (1994), and an academician of the Academy of Sciences of Higher Education of Ukraine (1993).

Borys Tarasovych Bilynsky graduated from the Lviv Medical Institute in 1956. He worked as a doctor, oncosurgeon, head of the surgery department in a district hospital, resident doctor of the regional hospital, younger and senior researcher of the Research Institute of Hematology and Blood Transfusion, associate professor, and later a professor and chair of the department of oncology and medical radiology at the Lviv Medical University, vice rector for clinical care (1982-1991), and vice-rector for research (1991-2000). He promoted democratic reformation of the healthcare system in Lviv region, co-authored the project of reorganization of the first Ukrainian hospice, and developed and implemented a screening system for early diagnostics of cancer among the employees of big industrial enterprises.

Back in his student years, B. T. Bilynsky started his research under the supervision of Professor H. P. Kovtunovych. In 1963, he presented his candidate dissertation entitled "Implantation relapses of breast cancer and their connection with cancer cells in the wound during mammectomy". He has been working at the department of oncology of the Lviv institute since its establishment. He continues

developing the traditions set up by Professor H. P. Kovtunovych and Professor A. I. Hnatyshak. In the mid-1960s, he became one of the pioneers of clinical immunology in Ukraine and in the USSR. His doctoral dissertation (1972) was

dedicated to the immunological and biological aspects of the burn disease.

Professor B. T. Bilynsky's research interests and works cover a wide range of problems connected with surgical and conservative treatment of tumors, and research of the patterns of metastasis, hepatology, and immunology. He is the author of over 500 publications including 11 monographs and 3 textbooks, among them the book "Oncology". It is the first textbook in this area for doctors and students written in Ukrainian (it was republished four times – in 1992, 1998, 2004, and 2007) and summarizes the educational experience of the department. He also prepared the manual "Modern schemes



Professor Borys Tarasovych Bilynsky

of polychemotherapy of the main diseases in adults and children". He was the advisor of 5 doctors and 22 candidates of medical sciences, including Professor Ya. M. Romanyshyn, Professor T. H. Fetsych, Professor Sterniuk, doctor of medical sciences O. O. Halay, doctor of medical sciences N. A. Volodko, Professor O. V. Lukavetskyy, O. V. Shyriy, Ya. V. Shparyk, V. A. Dukach, Yu. Yu. Oliynyk, T. B. Kachmar, V. V. Savran, M. M. Mryglotsky, N. O. Lukavetskyy, S. V. Prymak and others.

Over the last 5 years, under the supervision of Professor Bilynsky's disciple Professor T. H. Fetsych, the department of oncology of the Danylo Halytsky Lviv National University has been actively involved into the elaboration of the new methods and techniques of treatment of locally advanced forms of cancer with different localization, which is proven by the articles and patents on application of intraoperative hyperthermic intraperitoneal chemoperfusion for treatment of patients with stomach cancer accompanied by peritoneal sarcomatosis, as well as on application of hyperthermic intraperitoneal chemoperfusion in cases of chemoresistant ovary cancer; the search for prognostic factors in esophagus and cardia surgery; the study of the role of separate cell-molecular factors of the micro-surrounding in progressing of malignant tumors of the female reproductive

system. All of these correspond to the three areas of activity initiated at the establishment of the school of oncology, namely: 1) combination of theoretical and clinical oncology (immunology of tumors, sensitivity to chemotherapy, hormonal therapy); 2) individualization (personalization) of the approaches to treatment; 3) improvement of the surgical techniques and adjuvant therapy.

After Ukraine gained its independence, young Ukrainian researchers got new opportunities. Hundreds of young doctors got a chance to go for a practical training to famous European and American medical centers.

The research school of oncology has always been disseminating its ideas through research and practical society of oncologists, which was traditionally headed by the leaders of the school. The reputation of the Lviv society has always been very high, which is proven by the publications of the Society's reports in the famous journal "Problems of Oncology" (1963, 1966). Despite the considerable



Lviv State Oncology Regional Treatment and Diagnostics Center

oncological and political problems that the country has been facing in general, and its healthcare system is not an exception, the Lviv school of oncology and the Lviv Society of Oncologists continue their functioning cherishing the best traditions of their predecessors. We remember that to reach new frontiers we have to rely on the experience of our teachers.

The Lviv school of oncology is broader than the department of the same name. It has been uniting the staff of the base institution, Lviv State Oncology Regional

Treatment and Diagnostics Center (LSORTDC), where candidates of medical sciences D. S. Kaystrukova, M. M. Yolych, R. I. Sendetska, R. M. Tsiolko, and I. H. Hipp have been working. The head of the department of head and neck tumors O. O. Halay presented his doctoral dissertation. A number of doctors keep doing their research. The head of the department of chemotherapy, docent and candidate of medical sciences Ya. V. Shparyk has established cooperation with counterpart institutions in Europe and the USA. Due to this, one of the most powerful centers of chemotherapy in Ukraine has been established. Candidate of medical sciences Kachmar also works in this center. The center of chemotherapy cooperated with the researchers from the Institute of Hematology and Transfusiology, the candidate of medical sciences V. M. Matlan and doctor of medical sciences N. I. Kitsera, whose doctoral dissertation was dedicated to hereditary tumors.

The first Ukrainian "Hospice" chaired by the candidate of medical sciences Ye. B. Moskvyak is affiliated to the Lviv research school. Researchers from Ternopil, Ivano-Frankivsk, Rivne, and Lutsk also join our school. A number of practitioners from other regions of Ukraine also feel and declare their belonging to the school that used to be headed by such luminaries as H. P. Kovtunovych and A. I. Hnatyshak. The Lviv school of oncology has been cooperating closely with oncologists from out capital city. B. T. Bilynsky is a professor emeritus of the R. E. Kavetskyi Institute of Experimental Pathology, Oncology, and Radiobiology of the National Academy of Sciences of Ukraine.

Science cannot develop outside the collective of researchers; and here, scientific schools play a great role, and the Lviv school of oncology is not an exception. We remember our predecessors in all branches of science. We take pride in the fact that for many centuries the history of the Ukrainian science in general and medicine in particular was connected with the ancient Lviv. It was here that in 1661, the first university on the territory of our state was opened, and in 1784, as its part, a medical faculty was started, which was later transformed into the medical institute (in 1939). It was in the 19th-century Lviv that Lukasevych, a pharmacist, invented the petrol lamp, which opened the era of artificial lighting during surgeries. Rydygier, a famous Austrian surgeon, one of the pioneers of stomach surgery (1897), worked in Lviv; successful removal of tumors of female genital organs were done in K. Bocheński's clinic (1921); lung resections were done in T. Ostrowski's clinic.

We are convinced that by giving credit to our predecessors and standing on

their shoulders we can see the future achievements of our science and generate value for people.

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