Herbert Eguda Nieburgs, M.D., 1913-2013

Dr. Herbert Eguda Nieburgs passed away on June 8, 2013, in the hundredth year of a remarkable life of accomplishments in the pursuit of early cancer detection. He was an AACR member for 63 years. At the age of 97, he attended the AACR 101st Annual Meeting (Washington D.C., April 17-21, 2010) presenting digitally imaged morphology of the malignancy-associated changes (MAC) he had observed recently in cancer stem cell niche architecture.

Dr. Nieburgs is known for his pioneering work in clinical cytology and as the founder of the International Society for Preventive Oncology (ISPO), and the peer-reviewed, bimonthly journal, Cancer Detection and Prevention, serving as editor-in-chief from 1975 to 2008. Under his leadership the journal became an authoritative and important voice in the mechanisms of cancer development, its causes and co-factorial aspects, and approaches to cancer detection and prevention.

A native of Latvia, Dr. Nieburgs received his early education in Riga, Latvia and Berlin, Germany, and completed his medical degree in Italy at the University of Bologna (1938). He was in London during the Blitz, and from 1942 to 1946 he was affiliated with the Endocrine Clinic of Westminster Hospital, and the British Postgraduate Medical School, University of London. In 1946, he joined the Medical College of Georgia in Augusta as a research fellow in clinical endocrinology and cytology. He was appointed professor of clinical cytology in 1950 and founded the Department of Clinical Cytology. Thereafter, Dr. Nieburgs was associated with the:

- Beth El Hospital (Brooklyn, N.Y., 1953) as director of cytology;
- New York City, Department of Health, Division of Cancer Control and Research (1956–1967) as consultant, detection of early stomach cancer screening project;
- Mount Sinai School of Medicine, Department of Pathology (New York, N.Y., 1955-1984) founded the Laboratory for Cell Pathology in 1957 and served as director for 27 years; and
- University of Massachusetts Medical School, Department of Pathology (Worcester, Mass., 1987-2012) appointed professor of pathology.

In 1949, Drs. Nieburgs and Pund reported their 10,000-case investigation of cervix uteri carcinoma — and the landmark finding that preinvasive carcinoma could remain localized for as long as 10 years in younger women (JAMA 1950; 142 :221-225). Thereafter, Dr. Nieburgs directed the first mass-screening project in the United States for detection of uterine cancer in women, in Georgia’s Floyd County (JAMA 1957;164:1546-51).

Dr. Nieburgs’ seminal contribution was formalized in 1959 with the aid of the light microscope: the discovery and characterization of cellular “markers” presenting malignancy-associated changes (MAC) in ostensibly benign cells throughout the body — indicating the clinical presence of a suspected tumor and of unsuspected tumors in early asymptomatic stages (Transactions, 7th Annual Meeting, International Society for Cytology, 1959 Nov 14-16; Augusta, Ga. p. 137–144). Subsequently, the MAC cell morphology and diagnostic criteria were quantified by independent investigators and the algorithms were coupled with digital cytophotometric image analysis employed in today’s automated and semiautomatic cytometry systems for cancer screening.

Dr. Nieburgs was a pioneer in diagnostic cell pathology techniques for cytological examination, collection methods, fixation, and the reporting of diagnostic information. To improve visualization of the chromatin distribution within the cell nuclei and the morphology of the fine nuclear cell structures that occur in carcinogenesis, Dr. Nieburgs modified the formula of the Papanicolaou Stain. He introduced the practice of always showing both the characteristic cytology of the exfoliated cells and the histopathology of the tissues from which they were derived.
At the Mount Sinai School of Medicine, he constructed a system to image 20-fold enlargements of single cell structures within various histopathologic alterations, observed at the highest magnifications of a light microscope attached to closed-circuit television. Leitz Wetzlar optics technicians collaborated with Dr. Nieburgs in engineering light microscope ocular eye pieces and viewers for multiple users.

Dr. Nieburgs regularly conducted diagnostic cytology courses for the Mount Sinai Page and Black Postgraduate School of Medicine, the International Academy of Cytology, the American Society of Cytology, and medical schools around the world. His command of German and Italian permitted him to address his audience in these languages.

Dr. Nieburgs effectively fostered global approaches to cancer recognition and prevention as ISPO’s secretary-general. He organized two-dozen major international symposia held between 1973 and 2004 in New York, London, Paris, Geneva, Copenhagen, Sao Paulo, and Nice to mention a few of the venues. The four- to five-day scientific programs involved state-of-the-art discussions on etiologic factors interacting in cancer development and their impact on prevention, detection and management of neoplastic diseases. The scientific programs were endorsed by international cancer control agencies — World Health Organization, the International Agency for Research on Cancer, and the Union for International Cancer Control — and national, regional, and local cancer control agencies, university institutes, and medical centers.

Researchers and clinicians, who were engaged in various fields of cancer medicine and biotechnology, participated from around the world. Dr. Nieburgs, together with members of the program committee, organized thousands of research papers into cohesive daily presentations schedules — and subsequently undertook the massive task of reviewing and editing the papers for publication in volumes of proceedings.

Dr. Nieburgs’ own publications were many and varied. He authored an Armed Forces Institute of Pathology syllabus Morphogenesis of Uterine Cervix Carcinoma (1964), textbooks on subjects such as Hormones in Clinical Practice (1949), Cytologic Techniques for Office and Clinic (1957), Diagnostic Cell Pathology in Tissue and Smears (1967), chapters in textbooks and reference compendia like the 5th edition of Bocus Gastroenterology (1995), numerous audiovisual teaching aids, films, manuals and over 100 peer-reviewed journal articles devoted to the identification of cellular markers in cancer, immune deficiencies and AIDS, prognosis and response of cancer patients receiving chemotherapy and radiation treatment, and the relationship between environmental factors and cancer.

In addition, Dr. Nieburgs’ command of Russian and German made it possible for him to authoritatively translate a number of books into English, including the Russian language report by the U.S.S.R. Red Army Medical Unit, Treatment of Exposure to Freezing and Frostbite, for use by the British military during wartime (subsequently published by Hutchinson in 1947), and the second edition of the German textbook by Henning and Witte, Atlas of Gastrointestinal Cytodiagnosis, published by G. Thieme (1970).


Dr. Nieburgs was preceded in death by his beloved parents, who perished in Auschwitz in 1942. He is survived by his devoted spouse, Suzanne Kay Nieburgs, a former reference librarian at the New York Public Library Research Libraries (42nd Street), who collaborated with him for the last 41 years of his life in all aspects of his pursuits of the early detection of cancer, and his second cousin, Aleck Hercbergs, M.D., a retired radiation oncologist affiliated with the Cleveland Clinic.