LEUKEMIA RESEARCH FOUNDATION GRANTS

The Leukemia Research Foundation, Inc. announces funds are available to support research in the field of leukemia. Currently two types of Grants are being funded: research grants, and postdoctoral fellowships.

The following guidelines apply:

1). Maximum limit is $35,000 for research grants and $20,000 for postdoctoral fellowships.

2). Grants and fellowships are for a one-year period.

3). Institution of affiliation must provide both a report of the results of the research and a financial report, and guarantee that no other funding for this project has been accepted by the Principal Investigator.

4). No funds shall be applied to institutional overhead (indirect costs).

5). Preference will be given to researchers new to this field.

For further information and applications, contact:

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Superlatives are so overused that it is difficult to find adequate words to do justice to the accomplishments of Baruch Blumberg. He started about 25 years ago with what many would regard as a trivial observation: the discovery of an antibody in the serum of two multiply transfused hemophiliac patients to an antigen in the serum of an Australian aborigine. Using simple but elegant immunological techniques, Dr. Blumberg, together with colleagues, made a series of increasingly pointed observations. The Australia antigen was observed to be present in an appreciable number of sera from Australian aborigines and to a somewhat lesser degree in sera from southern European, Asian, African, and Pacific populations but was rare or absent from sera of other normal individual world populations.

The next landmark finding was its presence in 6 of 54 sera from acute leukemia patients but in only 1 of 13 chronic myelogenous or lymphocytic leukemias. The big payoff came in 1967 (Ann. Intern. Med., 66: 924–931) when Blumberg and colleagues reported the presence of the antigen in patients with acute viral hepatitis and in subjects from various settings in which viral hepatitis is common. Further research confirmed the suspicion that the Australia antigen was associated with the hepatitis B virus (HBV), and it was ultimately identified as the hepatitis B surface protein. Although much of his effort continued to be devoted to molecular properties of the viral protein and to hereditary and infectious aspects of hepatitis B, Dr. Blumberg also confirmed the etiological role of HBV in primary hepatocarcinoma (PHC), pointing out in 1975 that long-term infection with HBV was an etiological factor in PHC and that children of infected parents were at high risk for HBV and ultimately PHC (Am. J. Pathol., 81: 664–682, 1975).

By this time his laboratory was already hard at work developing a vaccine against HBV and by 1969 it had devised a procedure based on isolation of the HBV surface antigen, followed by treatment with formalin. Although slow to be accepted, large-scale production of the vaccine was undertaken by Merck and Company, and preliminary tests indicated 90% effectiveness with no detrimental effects.

The past decade has more than fulfilled the promise of these early results. In a recent symposium on hepatitis B [Am. J. Med., 87 (Suppl. A): 25–415, 1989], the current status of the vaccine was evaluated by an international body of nine experts. In the lead article, Dr. Blumberg summarizes the progress in the following words.

A hepatitis B vaccine, prepared from the hepatitis B surface antigen in human blood, has been available since the early 1980s. A recombinant vaccine, which can be supplied in unlimited amounts, was recently introduced. Based on current data, these vaccines are highly effective and safe. The most effective procedure for controlling hepatitis B virus is the vaccination of newborn infants. After universal vaccination of newborns has been ensured, vaccination of susceptible persons in older age groups could be instituted. Any attempt at eradicating hepatitis B virus will require international cooperation, and ideally the hepatitis B virus vaccine should be integrated into other childhood vaccination programs.

Hepatitis B is by no means negligible in the United States. It is prevalent to 3.2% in Whites and 13.9% in Blacks; after gonorrhea it is the most common notifiable disease, striking in particular homosexual men, heterosexual persons with multiple sex partners, intravenous drug users, children of carrier mothers, and patients and staff of programs for the mentally handicapped.

The significance of the HBV vaccine is truly mind-boggling in terms of the saving of life. Drs. Blumberg and London estimate [Cancer (Phila.), 50: 2657–2665, 1982] a worldwide annual incidence of PHC of 250,000 to 1 million in men and 50,000 to 200,000 in women. If, as seems likely, a large proportion of these cases are attributable to chronic HBV infection, the near-elimination of this magnitude of cancer mortality
will undoubtedly represent the greatest triumph in human cancer control in history.

Baruch Blumberg was born in New York City; he received an M.D. degree from Columbia University College of Physicians and Surgeons in 1951 and a Ph.D. in biochemistry from Oxford University, Balliol College, in 1957. He then joined the National Institutes of Health as Chief of the Section of Geographic Medicine and Genetics. It was in this capacity that he took up the systematic study of serum protein characterization to gain clues to geographic differences in disease susceptibility. In 1964, he joined the Fox Chase Cancer Center, where he currently holds the title of Distinguished Scientist. He is also a Professor of Medicine and Anthropology at the University of Pennsylvania. In 1989, he was appointed Master of Balliol College of Oxford University and Dr. Blumberg divides his time between Oxford and Philadelphia. His other appointments, memberships, and honors are too numerous to mention in the available space; we can single out membership in the National Academy of Sciences; Fellow of the Royal College of Physicians; membership in the American Philosophical Society; the Passano Award, 1974; the Nobel Prize for Physiology and Medicine, 1976; Honorary Fellow, Balliol College, 1976; and Honorary Fellow, Royal Society of Medicine. He has been granted 22 honorary degrees from institutions all over the world. He is a superb teacher and his documentary on public television several years ago was fascinating to scientists and laymen alike. Despite an incredible number of medical and scientific commitments, he has served on many editorial boards and in a host of advisory capacities in Philadelphia area institutions.

Sidney Weinhouse