In Memoriam, Edwin H. Beachey, M.D.

Edwin H. Beachey, M.D., born in Arthur, Ill., on 11 April 1934, was 55 years old and at the height of his career when he died on 27 October 1989 in Memphis, Tenn. He would have assumed the position of editor in chief of Infection and Immunity, a journal he served with distinction as one of its editors for 6 years, had he not learned he had cancer on 26 May 1989. Ed was committed to serving the scientific community in numerous other ways: reviewer for many peer review journals and consultant for numerous agencies. He was widely sought as a visiting professor and as session chairman of international meetings. At the time of his death, Ed was Professor of Medicine and of Microbiology and Chief of the Division of Infectious Diseases at the University of Tennessee College of Medicine, Memphis, and Associate Chief of Staff for Research and Development at the Memphis Veterans Administration Medical Center.

After graduating from Goshen College, Ed received his M.D. in 1962 from Northwestern University Medical School. During medical school he developed acute rheumatic fever, a recurrence of the disease he had suffered as a boy and a classical sequela of streptococcal infection. He was fortunate to come under the medical care and scientific tutelage of Dr. Gene Stollerman, a leading investigator of streptococcal disease. Following further clinical training in Chicago and a research fellowship at the National Institutes of Health with Dr. Roger Cole, Ed rejoined Dr. Stollerman in Memphis in 1966. This led to the start of an internationally recognized center for the study of the biology of streptococci and rheumatic fever.

In the ensuing 23 years, Ed was to become one of the world’s preeminent scholars of microbial pathogenesis, contributing monumental insights in two fields: (i) the molecular pathogenesis of Streptococcus pyogenes and (ii) bacterial adherence to mucosal surfaces. In a series of exemplary papers, Ed succeeded in unravelling the molecular basis that enables S. pyogenes to adhere to epithelial cells, resist phagocytosis, and trigger immunological cross-reactions with host tissues, the sine qua non of rheumatic fever and poststreptococcal glomerulonephritis. Many of these insights depended on the painstaking structural characterization of M protein molecules and their functionally important peptide fragments. Although previously suspected by others, it was Ed who definitively identified discrete regions of structurally defined M protein molecules that contain protective epitopes and other regions containing epitopes that cross-react with cardiac myosin. As a leader in developing synthetic peptide technology, Ed was able to synthesize specific peptides that defined either protective or cross-reactive regions. He was well on the way to developing a vaccine against rheumatic fever. More recently Ed found that cell-mediated immunity plays a role in the disease process and that M protein is probably a superantigen.

Ed was also a pioneer in the important field of bacterial adherence. He demonstrated that the streptococcal colonization ligand is lipoteichoic acid, which forms a complex network with M protein and binds via its lipid moiety to fibronectin on epithelial cells. He was also among the first to show that the mannose-binding adhesin of type 1 fimbriae in Escherichia coli consists of a minor protein determinant that is widely conserved among other gram-negative bacteria of the family Enterobacteriaceae.

In all of these studies, Ed demonstrated a virtuosic proficiency in most of the techniques of modern biology. But unlike too many investigators who become seduced by the technology, he never lost sight of the interesting biological problems. Ed was a master at adapting his approach in an everchanging world of science and was never intimidated by the potential difficulties of the new methodology. This style of inquiry, marked by an intrepid pursuit of knowledge that was driven by an insatiable curiosity, kept Ed at the forefront of pathogenic microbiology and immunology for over two decades, an extraordinary achievement. For this, Ed received many honors, too numerous to list. He died on the day he was to be informed of receiving the William S. Middleton Award, the highest scientific honor bestowed by the Veterans Administration.

None of these achievements, as outstanding as they were, give the full measure of the man. Ed was an extraordinarily warm, modest, generous, and sensitive individual who cared deeply about the people who worked with him and who were trained by him. He was the ideal mentor, a scientist of impeccable standards and professionalism who brought not only an ebullient joy to his work but a gentle grace to his interactions with co-workers. Throughout his illness, he continued to work vigorously, designing fundamental experiments with his usual zest, his determination supported courageously by his lovely wife, the former Carol Ann Teuscher. He was also a man of the earth and the world who loved good music and stimulating books, lively discussion, and cooking for family and friends. Among his fondest pastimes was tending to the lawn and gardens around his house, perhaps reminiscing about his upbringing on a midwestern farm. He relished the adventure of travel with Carol, and together they developed a remarkable international network of friends and colleagues. He will be greatly missed by them all. In addition to his wife, two daughters, Anne and Jennifer, survive him.

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Contributions to the Edwin H. Beachey Memorial Lectureship in molecular microbial pathogenesis may be made payable to UT, Memphis—Beachey Memorial (Department of Medicine, 956 Court Ave., Memphis, TN 38163).