Laboratory studies on gastric cancer were handicapped until the 1960's by lack of a simple, reliable method of inducing gastric adenocarcinoma in experimental animals. In 1961, H. P. Morris et al. (J. Natl. Cancer Inst., 29: 977, 1962) reported the induction of carcinoma of the glandular stomach in rats fed with or given injections of N,N'-2,7-fluorenylenebisacetamide (2,7-FAA). A more reproducible and better-tolerated method was then discovered in 1967 by T. Sugimura and S. Fujimura (Nature, 216: 943, 1967), who found that N-methyl-N'-nitro-N-nitrosoguanidine (MNNG) produced gastric adenocarcinoma in rats and in dogs. Later, 4-nitroquinoline 1-oxide (4-NQO) and aflatoxin were also shown to be capable of inducing carcinoma of the glandular stomach. The experimental aspects of chemical induction of gastric cancer were summarized in the 1969 Gann Monograph No. 8 and in the 1973 review by Sugimura and T. Kawachi (Methods Cancer Res., 7: 245, 1973).

Harold P. Morris was born in Indiana in 1900 and obtained his doctorate in biochemistry and nutrition from the University of Minnesota. After serving with the Department of Agriculture and the Food and Drug Administration, he joined the National Cancer Institute (U.S.) in 1938. On his retirement in 1968, he became Research Professor of Biochemistry at the College of Medicine, Howard University, Washington, D. C.

Takashi Sugimura was born in Tokyo in 1926 and graduated from the School of Medicine of Tokyo University in 1949. His professional career has been in biochemistry and cancer research, with a period of 3 years as visiting scientist in the United States. Since 1960, he has been on the staff of the National Cancer Center Research Institute in Tokyo, and he was made its director in 1974. Since 1970, he has also been Professor of Molecular Biology at Tokyo University.


Figures 3 and 4. Gastric adenocarcinoma in dog after 15-month ingestion of MNNG. Gross and × 500 (from Sugimura).

We are indebted to Dr. Morris (upper) and Dr. Sugimura (lower) for their portraits.

M.B.S.