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1904–1961

Obituary

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John Joseph Bittner was born in Meadville, Penn., on February 25, 1904, the son of the late Martin and Minnie Bittner. Following elementary education in the schools of Meadville he entered St. Stephen's College (now Bard) where he graduated in 1925 with honors in biology. He entered the Graduate School of the University of Michigan in 1927 and graduated with a Ph.D. degree in 1930. His thesis was entitled "A Genetic Study of the Transplantation of Tumors Arising in Hybrid Mice." He continued his research on the genetics of breast cancer in mice at the newly formed Roscoe B. Jackson Memorial Laboratory at Bar Harbor, Maine, between 1930 and 1942. In 1942 he became George Chase Christian Professor of Cancer Research and Director of the Division of Cancer Biology at the University of Minnesota. He held these appointments until his death on December 14, 1961.

Dr. Bittner is survived by his widow, Esther M.; two daughters, Mrs. Mary Bowker of Duluth, Minn., and Mrs. Elizabeth Loague of Denver, Colo.; one brother, Mr. Guy C. Bittner of Wantagh, N.Y.; and two sisters, Mrs. L. C. Strong, Sr., of Springville, N.Y., and Mrs. Josephine Turnbull of Sagamore, Penn.

Dr. Bittner made many fundamental contributions on the genetics of cancer research. The contribution of the use of the F_1 hybrid contained in his Ph.D. thesis was paramount to the value of the use of that genetically controlled mouse in many research programs since that time. The use of the F_1 is indeed a valuable tool not only in cancer research but also in a great variety of biological investigations. That the F_1 is a mosaic of characteristics derived from both parents had long been known. But Bittner added to this genetic principle evidence that the tumor which arises in an F_1 is also of a mosaic nature.

It has long been held that multiple factors were involved in the inheritance of susceptibility to spontaneous tumors in mice. Bittner retained an interest in this concept, and it was part of his triple concept for the origin of cancer—that is, that in the origin of cancer there were three influences: the genetic, the hormonal, and the milk agent. Bittner expressed the opinion many times that he considered this concept his greatest contribution to cancer research.

By far, however, the greatest impact of Bittner's contributions to cancer research was the discovery and the partial resolution of the milk agent (MTA) in relation to the transmission of spontaneous tumors of breast origin in mice. Whether this agent continues to be known as the virus of Bittner or whether it will eventually be recognized as a fractionated component of a mammalian cell (a dissociate gene? or something else) need not concern us here too greatly. The final answer will eventually be determined.

The original discovery of this agent is still not clear to all investigators. Certainly the discovery was based primarily upon the observation of maternal transmission of a susceptibility to spontaneous mammary gland tumors which was a contribution of C. W. Green at the Jackson Laboratory, Bar Harbor, Maine. The several possibilities of the nature of this transmission, extrachromosomal inheritance, placental transmission, maternal contact, mother's milk, etc., all had to be considered at this early date, and this was capably done by various members of the staff of the Roscoe B. Jackson Memorial Laboratory in Bar Harbor, Maine, at which Dr. Bittner was working at the time. The concept of the mother's milk was the domain of John Bittner which paid dividends. He carried this research program with him to Minneapolis and continued it assiduously up to his untimely death.

Upon the basis of his many contributions to cancer research, Dr. Bittner received many citations and honors. His first prize award was obtained in 1941 from the College of Physicians in Philadelphia. This was the Alvarenga Medal. In 1951 he received the Comfort Crookshank Award and lecture from the Middlesex Hospital Medical School of London. In 1950 his Alma Mater, Bard College of Annandale-on-Hudson, N.Y., presented Dr. Bittner with an honorary Sc.D. degree. In 1957, the University of Perugia granted him an M.D. degree *honoris causae*. Citations from the American Cancer Society and the Bertner award were also received by him.

During the years 1947–48, Dr. Bittner was president of the American Association for Cancer Research. He was a member of the Board of Directors of this Association from 1945 to 1951 and also served on the Editorial Advisory Board of *Cancer Research* from 1941 until 1957.

Dr. Bittner served on many committees dealing with cancer research. He was a member of the Unitarian Service Command, World Health Organization, the interim Committee on Medical Teaching Mission to Austria in 1947. He was a frequent attendant at many international and national meetings dealing particularly with cancer research.

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