



Title	Obituary : Tenji Taniguchi, 1889~1961
Author(s)	Kamahora, Juntaro
Citation	Biken's journal : journal of the Research Institute for Microbial Diseases. 1961, 4(4), p. 221-224
Version Type	VoR
URL	https://doi.org/10.18910/83043
rights	
Note	

The University of Osaka Institutional Knowledge Archive : OUKA

<https://ir.library.osaka-u.ac.jp/>

The University of Osaka

OBITUARY

TENJI TANIGUCHI, 1889~1961

Dr. Tenji Taniguchi, Professor Emeritus Osaka University, one of the founders of the Research Institute for Microbial Diseases, Osaka University and Director of the Institute for 13 years from 1943 to 1956, during the difficult years of World War II and the post-war period, died on Feb. 12, 1961 at the age of 72.

He was born in 1889 in Niigata prefecture, the third son of the Fujita family. In 1914 he married Miss Tatsu Taniguchi and entered Taniguchi family. He was graduated from the Tokyo Imperial University in 1914 and then studied at the Institute for Infectious Diseases, Tokyo Imperial University under Dr. Mataro Nagayo, later President of the Tokyo Imperial University. Soon after starting his study, in 1915 he was fortunately able to discover the spirochaete causing rat bite fever ("Sodoku"), the investigation of which later was to give him the Japan Academy of Science Award. With this study, the 26 year old Dr. Taniguchi heard a knock on the door of nature and was called to devote his life to medical research.

He studied bacteriology and immunology under Professors C. H. Browning and R. Muir at Bland-Sutton Institute, Middlesex Hospital, London and Glasgow between 1919 and 1921. During this period he studied the mechanism of the Forssman antigen antibody reaction and showed that this was a lipid antigen-antibody reaction and also that the Wassermann reaction was a similar antigen-antibody reaction due to a lipid antigen. Landsteiner who explained the antigenicity of lipids by the concept of "haptens" stated that the basis for this had been established by Dr. Taniguchi.

The great Kanto earthquake and fire of Sept. 1, 1923 not only destroyed property and countless number of lives but put a stop to his studies and meaningless days and months passed. With a gradual return to normalcy, Dr. Taniguchi began to think deeply of what he should do. He determined to make the study of virus, a subject shunned by investigations of the time, his life work. Most of his remaining 40 years was spent in the study of viruses and numerous noteworthy achievements have been published.

In 1927, he was invited to the Osaka Prefectural Medical College (later Osaka University Medical School) as professor and chief of the Department of Bacteriology, a position he retained up to the time of his retirement in 1952.

The great Kanto earthquake revealed the danger of public health service being paralyzed when there was only one center for prevention of epidemics, the Institute for Infectious Diseases in Tokyo, and Dr. Taniguchi stressed the need for the establishment of an organization for microbial research and production of vaccines. Through his farsighted efforts and the endeavours of Dr. Chozaburo

Kusumoto, Dean of the Medical School, the Research Institute for Microbial Diseases and the Osaka Microbial Diseases Research Foundation for vaccine production were established in 1934. He then devoted his efforts towards development of the Institute, especially development of a smoothly functioning, well-organized staff.

At the time of the founding, there were 5 sections in all, which have been expanded to a large organization with 11 sections. Seven of the professors, have been instructed by him and in addition 5 professors in other departments and schools are also of his handiwork.

The main studies carried out in his laboratory are as follows.

Viruses were considered beyond the range of vision but as large viruses were of a size which logically should be visualized the attempt was made to verify these under the microscope. The primary requirement was the discovery of suitable staining methods, and the so-called Taniguchi-Hosokawa method was devised. With this method, the elementary body was found in the lesion of small pox, cowpox, herpes simplex, herpes zoster, molluscum contagiosum, polyhedral disease of the silk worm, trachoma, etc. It was proposed that the elementary body was the causal agent and this theory was verified by the advent of the electron microscope.

In 1935, the Japanese B encephalitis virus was successfully isolated in the monkey and mouse in his laboratory. Similar studies were conducted at various laboratories elsewhere in Japan and the results were found to coincide well. In this way, the Japanese B encephalitis virus was discovered by Japanese investigators. Cultivation of this virus in the developing chick embryo was first made possible by the studies of Dr. Taniguchi as described in reference books published all over the world.

With the increase in contact with the tropical areas dengue fever invaded Japan in 1942 and reached epidemic proportions. Seizing this opportunity the staff, including the then assistant professor Dr. Tsunesaburo Fujino, concerned all their effort on this problem. It was shown by experiments in the monkey, mouse and in man that this condition was caused by the dengue virus and American investigators, who came to Japan after the war substantiated the fact that this study preceded investigations elsewhere. The Asakawa Award of the Kitazato Institute was given to this study in 1958.

Investigation on measles was begun in 1941 by Dr. Taniguchi and his associates and is still being conducted, that is, a continuous study has been made over a period of more than 20 years. The measles virus has been successfully cultivated in the developing chick embryo and in tissue cultures and experiments have been carried out in the monkey and great strides have been made toward the final goal, production of a prophylactic vaccine.

The Ministry of Education was highly interested in this problem and made special funds available for this investigation. In 1951 a special section for measles

research was set up and Dr. Yoshiomi Okuno has been continuing the research as chief of this section.

In this way, Dr. Taniguchi contributed greatly in the field of virology and the fact that he was chief of the Virus Group of the Scientific Research Section of the Ministry of Education before, during and after World War II and twice president of the Society of Japanese Virologists is proof of the high regard held by scientists for his achievements. Besides, his work in virology, special mention must be made of his study of the phenomenon of digestion of foreign cells by thrombocytes. It was found that foreign cells and bacteria invading the blood stream were immediately surrounded by thrombocytes and then ingested by phagocytes. This phenomenon was called pepticytosis and is described in Muir-Ritchie's *Manual of Bacteriology* (revised by C. H. Browning and T. J. Mackie 1932). This work has been continued by Dr. Tsunehisa Amano, successor to Dr. Taniguchi in the Department of Bacteriology, and numerous investigations have been published.

With his vast experience and knowledge he also actively participated in public health programs. He was awarded the Citizens Cultural Award by Osaka Municipal Board of Education in 1957 for his efforts in stemming the epidemic of bubonic plague in 1929 and later preventing spread of several epidemics of cholera.

He was favored by good health, a fine family, fine students and everything he did worked out well and he was known to frequently remark that he had been born under a "lucky star".

The episodes in his life presented briefly here seem to reflect his true nature.

When he was still a child, small pox vaccinations were conducted from person to person by attenuated strains as the present-day vaccine had not yet been made available. His father was village mayor and as he was the mayor's son and well built, he served as a medium for the cultivation of the smallpox virus. Material from cultures on his arms was used for vaccinating the children of the village and his forearm on both sides carried pock marks throughout his life because of this. It seems a strange quirk of fate that he, who served as a culture medium for the smallpox virus, should later make the study of this virus his lifework.

He was also a person of self-sacrifice and in the typhus epidemic, immediately after World War II, he set up the vaccine manufacturing plant at Kannonji, Shikoku with the aid of Dr. Watanabe and made large quantities of Cox-Craigie type vaccine available without regard for personal gain. This plant manufactured more than one-half of all the influenza vaccine in manufactured in Japan in 1951 and contributed greatly to stopping the epidemic in this country.

In 1955, growth of measles virus in the developing chick embryo was verified by the interference method, and with this method preparation of a measles vaccine was seen to be possible. Members of his staff suggested that the method be patented put Dr. Taniguchi stated emphatically that discoveries such as vaccines

which would contribute to the welfare of mankind should not be patented but made available to everyone.

The death of Dr. Taniguchi is not only a deep sorrow for us but a great loss to the scientific world. He has, however, left us many brilliant workers who will carry on his work and his achievements will not be lost forever. May he rest in peace knowing that we will carry on.

Juntaro Kamahora



TENJI TANIGUCHI
(1889—1961)