

- Memoirs of Medical Doctors in Hiroshima -

Contents (page # in original Japanese version)

Chapter 1: Atomic Bombing and Relief Activities 2 (1)

Section 1: Relief Activities for A-bomb Victims

“25th anniversary of atomic bombing” Yoshimasa Matsuzaka 4 (3)

“Longest day” Hiroshi Sawachika 7 (18)

“Memory of atomic bombing” Yutaka Tani 11 (34)

[Discussion Meeting]

Being exposed and treating the exposed

– Record of physicians affected by the A-bomb and providing medical care –

Takemi Sato, Hagie Ota, Nobumasa Kimura (Moderator) 15 (74)

Chapter 2: Establishment of Hiroshima Atomic Bomb Casualty Council (HABC) and Research on the Late Effects of the Atomic Bombs 31 (175)

Section 1: Research on the Late Effects of the Atomic Bombs

Progress of research on the late effects of the atomic bombs

Nanao Kamada 35 (179)

[Discussion Meeting]

In search of the origin of research on the late effects of the atomic bombs

Tomin Harada, Gensaku Oho, Hiromi Nakayama,

Nobumasa Kimura (Moderator) 45 (196)

Chapter 3: Medical Care and Medical Examination of A-bomb Survivors Residing in South Korea and the United States 63 (243)

*This is a translated version of extracts of a book “*Hiroshima Ishi no Karute*” published by the Hiroshima City Medical Association in July 1990. The association compiled the book from a collection of memos written by medical doctors in Hiroshima. The book is based on the memos submitted to the association for special editions of newsletters, released from 1970 to 1988, reporting about the aftermath of the Atomic Bombing.

*Individual names of citizens, except for doctors or public personae, were anonymized, and some names were read in commonly- used ways.

Chapter 1: Atomic Bombing and Relief Activities

On August 6, 1945, in Hiroshima City the weather was sunny with no clouds in the sky. It was also hot enough from the morning to make people sweat, even if they stayed still. On that day, the Enola Gay quietly flew over Hiroshima City from the northeast, and at 8:15:17 am dropped an atomic bomb together with parachutes from a height of 9,600 m. The atomic bomb exploded 43 seconds later about 600 m above the ground. The atomic bomb dropped on Hiroshima City, called Little Boy due to its thin shape, was 3 m in length, 0.7 m in diameter, and weighed 4 tons. The main fission material of the atomic bomb was uranium-235, and its explosive power was estimated to be approximately 20 kilotons of TNT, a high explosive, or approximately 20 trillion calories.

The explosion of the atomic bomb with such destructive power produced incredibly intense heat, blast wave and radiation, which inflicted catastrophic damage on Hiroshima City. Due to the blast wave and fires caused by the atomic bomb, approximately 3 km² of the city was burned to ashes. The damage caused by the explosion has not been accurately confirmed yet. However, according to the 1946 edition of the City of Hiroshima Handbook, 70,147 out of 76,327 houses in the city suffered damage. In particular, all of the houses located within 1 km of the ground zero were damaged, and most of them were completely destroyed by fire. Though the extent of human casualties also has not been confirmed yet, the “*Hiroshima/Nagasaki no Genbaku Saigai (Disaster by Atomic Bombs in Hiroshima and Nagasaki)*” published in 1979 estimated that 300,000 to 310,000 civilians and 43,000 military personnel were affected by the bomb, and that approximately 130,000 people had died as of November 1945.

When the atomic bomb was dropped on Hiroshima City, there were 2,370 healthcare professionals in the city, of whom 2,168 people, who accounted for 91% of the total, are said to have been exposed to the bomb (“*Report on air attack damage in Hiroshima City on August 6 and special measures*”). Meanwhile, out of 298 physicians who lived in the city at that time 270 are said to have been affected by the bomb. The exact number of healthcare professionals who died in the line of duty was difficult to be estimated, as is the case with the general public. The Hiroshima City Medical Association has worked to check the number of A-bomb victims whenever possible, and has confirmed that 252 physicians, including non-members, and 187 employees died in the line of duty.

It was because the Air Defense Law and relevant laws and regulations were enacted in 1937 that such a large number of healthcare professionals were affected by the bomb or died in the line of duty. These laws and regulations stipulated that healthcare

professionals had to engage in air defense operations as specialists under the orders of the Governor. In addition, healthcare professionals in Hiroshima City were prohibited from moving from the city and were obliged to engage in air defense and relief operations in the city by the Order of Engagement in Air Defense Operations issued by the Governor. Consequently, most physicians continued to stay in the city and were affected by the bomb.

Though many physicians died in the line of duty due to this flaw in the air defense system, physicians who survived the atomic bombing worked hard to treat A-bomb victims with no regard to their own injuries. However, in a situation where many medical institutions were destroyed and there were not sufficient healthcare staff and pharmaceutical products left, they were unable to provide adequate medical treatment to A-bomb victims coming one after another. All that most physicians could do was to apply some zinc oxide oil to burns and injuries and to watch as they died, and they gradually became less sensitive to death. Looking back at that time, many physicians are still afflicted by a guilty conscience. Though they also experienced the bombing, they treated A-bomb victims. Nevertheless, they have suffered feelings of guilt. This is the starting point from which physicians in Hiroshima City appeal for the abolition of nuclear weapons.

This chapter titled “Atomic Bombing and Relief Activities” consists of three sections: Relief Activities for A-bomb Victims, A-bomb Experience, and Consoling of A-bomb Victims in the Line of Duty. As already mentioned, relief activities for A-bomb victims were the starting point for physicians in Hiroshima City. The fact that they experienced the atomic bombing might have had a considerable influence on the rest of their way of life. While reading the memoirs introduced here, you may see the perspective of a physician in them. All of these memoirs were written after 1970, and many writers were aged around 20 when they experienced the atomic bombing. This is one of the features of these memoirs.

To console the spirits of healthcare professionals who died in the line of duty due to the atomic bombing, the Hiroshima City Medical Association held 7th-year and 13th-year joint memorial services on August 3, 1951 and August 4, 1957, respectively. On August 4, 1960, it unveiled the Hiroshima City Medical Association Monument and a picture of physicians and nurses conducting relief activities for A-bomb victims, as well as held a memorial ceremony for A-bomb victims who died in the line of duty. Since then, it has held annual spirit-consoling services for its members who died in the line of duty jointly with healthcare professionals, in order to bring back the memories of the atomic bombing, console the spirits of the victims, and reassert their will.

Section 1: Relief Activities for A-bomb Victims

“25th Anniversary of Atomic Bombing”

Yoshimasa Matsuzaka

Yoshimasa Matsuzaka:

Born in 1888. He opened his practice in Iwamiya Town (currently Nobori Town) in 1915, where he experienced the atomic bombing (approximately 1.2 km away from the ground zero) when he was 57 years old. Though he received a serious injury, he devoted himself to relief activities. After successively holding various posts, such as President of the Hiroshima City Medical Association, President of the Hiroshima Prefectural Medical Association, Chairperson of the Hiroshima City Council, a member of the Council on Medical Care for Atomic Bomb Exposed, Ministry of Health and Welfare, and Vice President of the Hiroshima Atomic Bomb Casualty Council, he died at age 91 in 1979. He was engaged in editing “*Hiroshima Genbaku Iryo-shi* (Medical History of Atomic Bombing in Hiroshima)” and “*Hibakusha to tomoni – Zoku Genbaku Iryo-shi* (With A-bomb victims - Medical History of Atomic Bombing in Hiroshima II)” (issued by the Hiroshima Atomic Bomb Casualty Council).

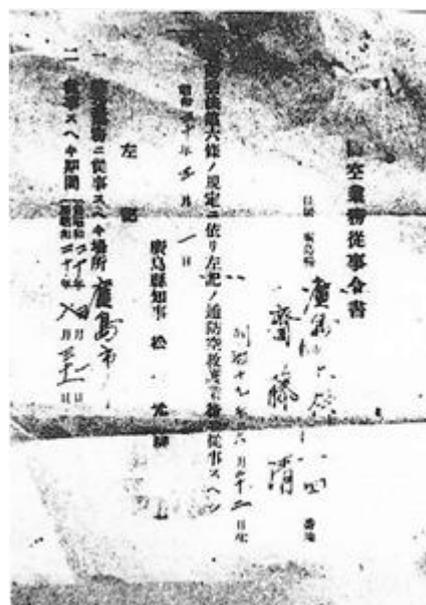
This year commemorates the 25th anniversary of the atomic bombing. On August 6, 1945, an atomic bomb, which was dropped for the first time in the world’s history, devastated Hiroshima City and killed over 200,000 citizens.

I was recommended for the position of President of the Hiroshima City Medical Association and accepted in March 1941. At that time, the activities of the Imperial Rule Assistance Association were at their peak under the Greater East Asia War. The situation at the time is described in the “*Hiroshima-shi Ishikai-shi* (History of Hiroshima City Medical Association)” issued in 1956, when Dr. (Takuji) Imagawa and Dr. Naoki Todo served as President and board member in charge of the Hiroshima City Medical Association, respectively. The book was edited while I was President of the Hiroshima Prefectural Medical Association. Though I desired to record my experience of the atomic bombing in the book, I was unable to do so because I was so busy addressing issues related to health insurance and tax imposition in the Japan Medical Association that I had few opportunities to attend editorial meetings and speak about my experience. The activities of the Hiroshima City Medical Association under the Greater East Asia War were partially described in detail in the book. Unfortunately, however, many valuable

documents possessed by the association were burned to ashes by the atomic bomb. I deeply regret that I did not have the documents sent away to a rural district.

In the wartime structure at that time, various laws related to medical treatment were integrated into the National Medical Treatment Law under the slogan of “Establishing a country with powerful defenses,” and “Completing the war.” It was also determined that board members of the Hiroshima Prefectural Medical Association should be appointed by the government. I served as Chief of the Hiroshima Branch of the association from March 1941 to March 1944, followed by Dr. Kanichi Yoshida. Then, I assumed the office of Chief of the East Civil Defense Unit, a civilian air-defense unit, as well as a board member of the Hiroshima Prefectural Medical Association under President Dr. Hiroo Ohara, until the end of the war.

Dr. Kanichi Yoshida was eagerly devoted to air-defense and relief operations when he was Chief of the Hiroshima Branch. When the atomic bomb was dropped on Hiroshima City on August 6, he was injured at home, 0.8 km away from the ground zero. However, he carried out his mission, playing a leading role in providing aid to the injured in the Fukuromachi Temporary Aid Station and other aid stations. Moreover, he was designated as Director of Hiroshima City Temporary Quarantine Hospital, which was hastily set up (the building of Fukuya Department Store in Hatchobori was used), and made strenuous efforts to provide aid to citizens injured by the atomic bomb.



Order of Engagement in Air Defense Operations

Several days after the atomic bombing, citizens began to suffer from fever, vomiting, diarrhea, and bloody stools. They were diagnosed with dysentery, a contagious disease, and were placed in the Hiroshima City Temporary Quarantine Hospital. Dr. Yoshida worked to provide medical care to them, at the same time wondering whether they really suffered from dysentery. However, partly due to overwork, he began to suffer the symptoms of A-bomb disease, such as purpura or subcutaneous hemorrhage. Though he received treatment, staying in bed for several days, he died on September 3. After sacrificing himself for the nation and being devoted to relief work, he died in the line of duty. Many other member physicians and healthcare professionals who worked at air-defense aid stations also devoted themselves to relief activities and eventually died of radiation diseases. When the Hiroshima Atomic Bomb Casualty Council decided to edit

the history of medical care for A-bomb victims, it carried out a questionnaire survey to our member physicians to ask about their relief activities, and received more than 50 answers. These answers, which are included in pp. 243 to 260 of “*Hiroshima Genbaku Iryo-shi*,” show how hard they worked to achieve their mission of providing medical care for A-bomb victims. Since our member physicians died (probably from the late effects of the atomic bomb) one after another at that time, I tried to edit “*Hiroshima Genbaku Iryo-shi*” as quickly as possible to keep a record of their relief activities. Generally, after a disaster, aid organizations on the spot become too confused and disturbed to fully conduct relief activities, even though they are well prepared for a disaster. Accordingly, support from non-affected areas should be provided. After the atomic bombing, the Akatsuki Corps, which was stationed in the Ujina/Niho area far away from the ground zero, first went into action to engage in relief work for A-bomb victims. Then, the Kure Naval Forces and other military forces near affected areas joined relief activities. Meanwhile, the Hiroshima Prefectural Government instructed organizations throughout the prefecture to participate in relief work. Support was also provided by relief teams consisting of staff in medical schools and personnel from medical associations in other prefectures in the Chugoku region. Above all, I highly appreciate the efforts made by our member physicians who were devoted to relief activities though they also experienced the atomic bombing in the center of the city or around the city and their houses burned down.

As previously mentioned, this year the national government budgeted condolence money for healthcare professionals who carried out their work under the Air Defense Law and their bereaved families, as relief measures for the families of the war dead. The budget was approved by the Diet. This was very gratifying, regardless of the amount of money. We appreciate the support provided by Representative Toru Ohara, who always discussed air-defense issues in the Committee on Social and Labor Affairs of the House of Representatives, and Representative (Hirokichi) Nadao and (Kaku) Sunahara, who provided assistance as members of the Government party, as well as officials of the prefectural and city governments and the city council.

Based on the treatment offered this time, we expect our board members to make efforts to have the late Dr. Kanichi Yoshida and many other members who died in the line of duty gain further glory and benefits. Lastly, commemorating the 25th anniversary of the atomic bombing, I would like to urge the banning of murderous nuclear weapons. (August 1970 issue: “*Hibaku 25-shunen wo Mukaete* (At the 25th Anniversary of Atomic Bombing)”))

“Longest Day”

Hiroshi Sawachika

Hiroshi Sawachika:

Born in 1918. He experienced the atomic bombing in the Army Marine Headquarters in Ujina Town (approximately 4.7 km away from the ground zero) when he was 27 years old. Immediately after the atomic bombing, he was engaged in relief activities as an army surgeon. He served as President of the Hiroshima City Medical Association and Director of the Hiroshima Atomic Bomb Casualty Council. He opened his practice in Ujina Town in 1946. He died at age 71 in 1989.

In 1945, I had just gotten married and lived in a guesthouse belonging to a wealthy person in Kusatsu Town. In the morning of August 6, I passed by train through the area that was soon to become the ground zero, and went to the Army Marine Headquarters in Ujina Town, where I worked. As soon as I entered my room, a red flash went off in front of my eyes and I felt my face burn. Though I thought that an incendiary bomb had hit, I suddenly felt as if I had been placed in a vacuum. When I came back to myself, I found a desk and a chair blown to the corner of the room and myself lying down near them. No sooner had I confirmed that I was safe, except a scratch that was bleeding on my cheek, than I was asked to provide medical care to an injured person. When I treated that person, injured people came one after another and filled the room around me.

Soon, crowds of citizens came to us, making weird sounds like moaning or crying. The spacious premises of the Army Marine Headquarters quickly filled with injured citizens. They began to wait for treatment, forming a line. Since most of them had suffered burns, we made endermic liniments and applied them to the burns as first-aid treatment. We opened the main hall of the Gaisen-kan (Hall of Triumph) for them, where nurses and corpsmen provided treatment endlessly. Though I treated patients in a doctor's office, there were so many patients seriously injured that all that I could do was to administer first aid. Suddenly, a middle-aged woman rushed into the office with her child in her arms without waiting for her turn, crying, “Help us, doctor!” She had already lost her sight, but she cried, “Please help my child at least!” When I separated her child from her, soothing her, the child was already dead. When I told her to leave her child to me and receive treatment, she looked relieved and fell down there, without coming back to life.

There was a patient who had innumerable pieces of broken glass stuck deep in his body. There was a young woman who quietly waited for her turn, with a concrete wedge sticking deeply in her neck. I provided treatment without stopping. When I finally went

out of the office to take a break, I was surprised to see that the large freight yard on the waterside was filled with patients, with no room left to walk. After a few steps, someone suddenly grabbed my legs. I looked down and found a young woman grasping my legs with both hands. She said in a frail voice but desperately, "Doctor, I have reached full-term, but I shall soon die. My baby is moving in my belly. Please help my baby at least." I felt guilty because I knew that I was unable to fulfill her last wish. I said to her, "I will take you to the office soon. Please take heart and wait a little more," and went back to the office. Then, I continued to provide treatment to patients, still feeling guilty about her. Since more and more patients came to us, while there were a few physicians and nurses, the Headquarters began to transport patients to other medical offices in small islands and other areas by boat. Since I was anxious about the pregnant young woman whom I had met earlier, I went to see her when I took a bathroom break. The sun was already in the west, and the young woman was dead, being slightly exposed to sunlight. I suffered heartache and instinctively put my hands together. At night, patients began to stop coming to us. Then, a messenger came to me from an army surgeon attached to the Western District Army Headquarters and said that my sister-in-law had been affected by the atomic bomb and taken to the house of Field Marshal (Shunroku) Hata. The city was in flames, and it was impossible to go directly from Ujina to his house. As I was no longer so busy, I began to worry about my family. Since I heard that there happened to be a ship leaving for Inokuchi, I asked another physician to take over, and took the ship. On the way from Inokuchi to Kusatsu, I came across a crowd of people silently walking along the railroad tracks from east to west. Coming closer to them I found that most of them wore tattered clothes. Some of them walked extending their arms, with something like a string hanging down from their arms. I looked carefully and found that what seemed like string was skin peeling off their arms due to burns. When I asked them where they had gotten injured, they looked back toward the city. When I asked them where they were heading, they pointed in a forward direction in an emotionless manner without saying anything. Telling them just to take courage, I rushed home. Fortunately, my wife, who was four months pregnant and suffered morning sickness, was safe. When she saw me, her face froze in shock. Probably, she did not think that I could come home, passing through the city, which was in flames. She told me that some members of a women's association in the neighborhood had gone to the city for volunteer labor and had not come home. Since my wife was exempted from volunteer labor on that day due to morning sickness, she happened to be at home. Seeing her eagerly waiting for them to return home, I also became anxious about them. When I thought of myself, having escaped death by a hairbreadth in the morning, and my wife, who fortunately remained home, I keenly felt

the strangeness of fate. While eating a boxed lunch that she had made, we realized that we were alive. We continued to talk about various things, worrying about the safety of my wife's relatives in the city, where the flames spread across the sky. That was the longest day in our life, and it seemed to drag on endlessly.

The following morning, I left home early and hurried to the Eastern Drill Ground on foot, crossing over Misasa Bridge. On my way, I saw countless dead bodies lying down on the ground, a dead body leaning on the railing of the bridge with the body riding on a bike, and many dead bodies in the river. I felt as if I had been to hell and back. When I visited the house of Marshal Hata located uptown of the Eastern Drill Ground, his wife told me that my sister-in-law had been taken down to the Ground to receive medical care. After looking for her for a while, I found her lying down on the grass. I confirmed that she was conscious and began to treat her. Soon, people lying down near her came rolling to me one after another, and asked me to provide treatment. After applying emergency first aid to them, using all first-aid outfits that I had, I told my sister-in-law to take heart and wait for me to take her to the doctor's office, and hurried back to the Headquarters. In the Headquarters, both medical personnel and materials had been supplemented, and patients had been dispersed to other areas. In addition, the main building of the Headquarters was being used as an emergency patient room. Thus, the system for treating patients was being improved. In the evening, we were determined to conduct relief activities in the city, and went out to the city, where fiery sparks still shot up into the air from utility poles, with corpsmen, hygiene products, and foodstuffs being loaded into a truck. When we reached the Chojuen, the sun had already set. Military men and civilians gathered together all over the place. When I came near a group of military men, some of them recognized me and tried to give me a neat salute. I stopped them trying to salute me, and asked them about their physical condition. Most of them were almost unable to walk. When I tried to give treatment to them, all of them firmly declined, saying, "We are still in good condition. Please take care of civilians first." Telling them that I would come back to them, I offered hygiene products and foodstuffs to them and went to another group of people. When I began to run out of hygiene products, I found a mother and two children lying down on the grass under a tree. They were all very quiet. When I came near them, the mother told me that her two children were injured and terribly weak. However, I examined the children to find that they were not seriously injured and had nothing much to worry about. When I looked at her, saying that she did not need to worry about her children, she looked very pale. When I asked her about her physical conditions, she said that she had difficulty moving her left leg. Looking at her left leg, I found that the knee joint of her left leg was cracked open, in which the bone head part was seen. She must

have been too obsessed with her children to notice her injury. I administered first aid to her as carefully as possible, though I hesitated to do so for only an instant. I told her to receive treatment as early as possible and moved away with strong reluctance. On my way back, I passed by the military men whom I saw earlier, and found that several of them had already died. Though my sister-in-law lying down in the Eastern Drill Ground was later taken to the temporary patient room in the Headquarters and underwent medical treatment, she also died at age 19. She was a student at Hiroshima Jogakuin Specialty College. When she suffered the atomic bomb blast, she was on her way to a labor service site to engage in volunteer labor due to student mobilization. Even after she lost consciousness, she hummed the rhythm of some Western music that she liked. Listening to her humming, I thought that she was heading off to heaven. I still believe that she is surely in heaven.

It is 36 years since the atomic bomb was dropped. Though most of my memories of that time have faded, strangely enough, enough, these events are still fresh in my mind and are inscribed in my memory as if they had happened yesterday. (I was a surgeon-captain in the Army Marine Headquarters at that time.)

(August 1981 issue: Special Edition
“*Watashi to Genbaku* (Me and Atomic Bombing)”)



A-bomb victims admitted to a tent in the Second Army Hospital yard, around August 8, 1945.

“Memory of Atomic Bombing”

Yutaka Tani

Yutaka Tani:

Born in 1912. He began to work at the Department of Otorhinolaryngology of Hiroshima Red Cross Hospital in 1939. On August 8, 1945, he came back to Hiroshima City from Okayama, his hometown. He was devoted to relief work at the Hiroshima Red Cross Hospital from August 9, when he was 33 years old. In 1948, he opened his practice in Kojin Town. He served as Audit-Secretary of the Hiroshima City Medical Association.

In the evening of August 6, 1945, the radio reported that several enemy aircraft had dropped bombs on Hiroshima City and seemed to have caused enormous damage to the city. However, no details were given. On that day, I was staying in my hometown in a rural area in Okayama, away from Hiroshima, for some reason. Though I was anxious to return to Hiroshima as soon as possible, I was unable to obtain tickets for Hiroshima. In the morning of August 8, I eventually left my hometown by myself. Okayama City had already been hit by bombs, which had brought the JR Sanyo Line to a standstill. Accordingly, I went to Niimi by way of Tsuyama, and took a train on the Geibi Line. When I saw a train coming from Hiroshima around Yoshida, it was filled with critically-injured people, who suffered severe burns and injuries all over their bodies. Seeing them wearing a strangely dazed expression rather than a tortured one, I thought that something abnormal must have happened to them, and felt uneasy. It was after eight in the evening when I arrived at Hesaka Station in Hiroshima. It was already dark outside. At that time, it had been determined that people in the Hiroshima Red Cross Hospital should take refuge in Hesaka Elementary School in case of emergency. Accordingly, I went to the school, and saw that all the classrooms were filled with critically injured people. Though I asked them about the situation of the Red Cross Hospital, nobody knew anything about it. Reluctantly, I began to walk toward Hiroshima City. On my way, I saw people in small groups crouched down on the ground and letting out anguished cries all over the place. Most of them had suffered burns on their arms and legs. I walked along the source of the river in Ushita, crossed over the Kohei Bridge, which had barely escaped destruction, and entered the city around 22:00. Since it was completely dark there, I was not able to fully grasp the situation of the city. However, I found that utility poles, which now stood only approximately 30 cm tall, remained on the road giving off smoke. There was nobody to run into in the city. I continued to walk and finally approached Koi Station when the dawn was breaking. Surprisingly, several houses remained unburned near the station, though

they were seriously damaged. I was relieved to see the situation there, because I became convinced that my family members in Furue might be safe. Around the station, the grass and rice plants in fields were burned only on one side, which turned white, as if they had been burned in a bonfire. Later, I understood that they had been burned by the heat wave from the atomic bomb. When I finally reached home, I saw my house barely standing. This pleased me very much, though most of the walls of the house were broken down and blown away with window frames. I peeked inside the house and found that my family members were still alive. My wife told me that she had thought a large flare bomb had exploded in front of her, emitting a flash. Since she had no time to go to the bomb shelter in the garden, she held our second son aged two years old in her arms and pulled a thick futon, which she had just been sewing, over their heads. Soon, she experienced a shock like an earthquake. She was unable to move for a while due to a heavy weight on the futon. Finally, she looked around the room and found that the wall directly exposed to the bomb blast had been completely broken down, and that the room was filled with pieces of glass, walls, soil and wood, with a window frame stuck in a wardrobe. Then, black rain began to come down in bucketfuls, but there was nothing she could do in the house with the roof blown off. Hours later, a person who used to live in the same neighborhood near the Red Cross Hospital came to our house to ask for aid. She seemed almost dead. We had her hospitalized (?) in our house. Though I treated her with Ringer's solution and a cardiotoxic drug, which I was keeping at home, she died the following day. We cremated her with people in the neighborhood in front of Furue Station. Since her grandchild had also died, we cremated him, struggling to pacify his mother, who had gone out of her mind.

I repaired my bicycle's flat tire by myself and left for the Red Cross Hospital in the afternoon. On my way, I ran across several patients whom I knew, and administered first aid to them. Meanwhile, I saw countless dead bodies, which were completely naked, red and swollen up like guardian gods of a temple gate, floating upstream due to the rising tide in the Motoyasu River and other rivers. The roads were covered with piles of debris. There were also many rows consisting of dozens of roof tiles saved from burning all over the place. On those roof tiles, a few remains were placed with no names provided. I finally arrived at the hospital to find that it was heavily damaged with glass windows broken and iron sash doors twisted, and almost all inpatients and most staff members either dead or injured. Director (Ken) Takeuchi, who was also injured, and Deputy Director (Fumio) Shigeto, who had just assumed his post, were taking the lead in providing medical care to injured people. To provide medical care, we placed three tables in the entrance hall of the hospital, where many injured people queued up. However, all that we could do was to

apply some Mercurochrome and zinc oxide oil to burns and injuries. Gauze and bandages were also lacking. Seriously injured people were placed in a more miserable situation. Since we were unable to secure staff members to clean up patients' rooms filled with fragments of glass, we laid seriously injured people on ampela mats (thin straw mats), which we managed to obtain, in the main hallway of the hospital.



Aid station in chaos (Red Cross hospital), August 10, 1945

They were laid out like tuna in a fish market. There were few blankets and mattresses for them. The entrance hall and the hospital yard were filled with these seriously injured people. Food and water were served to them in aluminum plates and bowls. When we took off their gauze to change bandages, we found that their wounds were infested with maggots (fly larvae) of various sizes. It was impossible to remove all of the maggots. Consequently, there was a large crowd of flies around there. Though Dr. Hiroyuki Takaba at the Department of Otorhinolaryngology, who was on duty on the day of the atomic bombing and had suffered a minor injury to his forehead, exerted himself to provide medical care with a white fillet tied around his head, he fell sick and soon returned home (currently Mirasaka Town). Dr. Takahara and Dr. (Kazuo) Takiguchi continued to treat people, making use of a desk left in the Chief Physician's Room of the Department of Otorhinolaryngology, while cooking for themselves. Seriously injured people in the hallway and the yard died one after another almost every day. Out of necessity, we gathered wood saved from burning on a burned-out site next to the south side of the hospital, and used it to cremate some dozens of dead bodies. Smelling the powerful stench of corpses being burned, our hearts ached. Probably partly due to this experience, Dr. (Toshio) Yasuda of the Department of Ophthalmology died a tragic death, and a short time later so did Dr. (Hiroshi) Miura of the Department of Pediatrics. Soon, people in the boarding house for nurses began to have blood in their stools like dysentery patients. We made a big fuss, because we thought that they might be suffering from dysentery. In retrospect, it was not dysentery but A-bomb disease.

I evacuated my wife, who was pregnant then, and my child from a house in Furue to Okayama. I soon returned to Hiroshima to work at the Red Cross Hospital. I lived with the family of Mr. Y, who was my patient, including his two badly-burned children. Fortunately, family K next door was kind enough to prepare meals for us every day. I was committed to treating patients every day. Fortunately, I did not become sick with A-bomb

disease caused by secondary radioactivity. Every day I left home early in the morning for the Red Cross Hospital. On my way, I sometimes provided medical care to patients with A-bomb disease. On such days, I arrived at the hospital after midday, where all that I could do was to apply some Mercurochrome to people's burns at the tables in the entrance hall.

It was in the middle of February 1946 that I was able to live with my family members in Furue. By then, my wife had given birth to a baby girl in Okayama, though suffering from A-bomb disease, and my second son had narrowly escaped death. Then, many of my acquaintances died of A-bomb disease, leukemia, or other cancers one after another.

Recently, the Soviet Union has reinforced its armaments, and the U.S. and other countries have also increasingly involved themselves in the arms race. However, as one of the A-bomb survivors in Hiroshima, I would like to make known how disastrous the results of the atomic bomb were. If the arms race continues, it is clear that only one use of nuclear weapons will kill most or all people in the world in the future.

We should aim to abolish nuclear weapons, instead of trying to prevent wars by nuclear deterrence. We also should take every opportunity to build pluralistic and interdependent relationships between all countries in the world, in order to resolve conflicts between countries, races, and ideologies through cultural exchange, people's diplomacy, and discussion based on mutual understanding. All people in the world should join together with each other as one family. I strongly hope that every person will become aware of human wisdom and promote mutual understanding and trust to achieve true peace in the world.

(August 1981 issue: Special Edition "*Watashi to Genbaku* (Me and Atomic Bombing) ")

[Discussion Meeting]
Being Exposed and Treating the Exposed
– Record of Physicians Affected by the A-bomb and Providing Medical Care –

Takemi Sato
Hagie Ota
Nobumasa Kimura (Moderator)



Dr. Ota providing medical care in Fukuromachi aid station. 1945.

Takemi Sato

(Profile provided in P.28): Born in 1898. He opened his practice in Kusatsu town in 1930. He experienced the atomic bombing there (4.6 km away from the ground zero) when he was 47 years old. He devoted himself to relief work at the aid station in Kusatsu as a director. He re-opened his practice again in 1951, and died in 1986 at the age of 87.

Hagie Ota

Born in 1921. She began to work at the Department of Ophthalmology of Hiroshima Prefectural Hospital in 1942. She experienced the atomic bombing at home in Ushita Town (approximately 2 km away from the ground zero) when she was 23 years old. She devoted herself to relief work at aid stations in Ushita, Furuta, Nippon Kangyo Bank, Fukuromachi, Kusatsu, and Inokuchi. She opened her practice in Ushita Town in 1948.

The anniversary of the world's first atomic bombing, which inflicted catastrophic harm, has come again. Many physicians, nurses and their family members engaged in medical care on that day with no regard to their own health conditions. They were physicians in local communities, hospital doctors who guarded the home front, and unknown nurses. The souls of many healthcare professionals who died in the line of duty rest at peace in the Monument for the A-bomb Victims from the Hiroshima City Medical Association located in the Peace Boulevard.

There are fewer people now who know the circumstances of that time. There are few physicians who engaged in medical care at that time despite being affected by the atomic bomb, who are still working. The other day, we had these physicians talk about their professional experience at that time. After listening to their talk, I felt a chill all over though it was a sultry summer night. Although memories of that time are beginning to

fade, I would like to continue to convey this emotion. (Kimura, board member in charge of public relations).

Doctors were absolutely prohibited from evacuating from the city... Only a director, who hadn't been called up for military service due to age, and six or seven female doctors were left...

Kimura: Dr. Sato, I heard you had opened your practice in Kusatsu around 1930. What was your situation at that time (in August 1945)?

Sato: At the beginning of 1945, I was told by a chief surgeon that doctors were absolutely prohibited from evacuating from the city and had to establish aid stations in individual school districts. I was instructed to be responsible for an aid station in Kusatsu, because I was the only doctor there. Though Dr. (Kumataro) Nagata remained in Furuta, he was in charge of an aid station in the Furuta School District.

Kimura: What was the structure of the aid station?

Sato: It consisted of a nurse from my clinic and approximately 10 young spare nurses from a women's association. To establish the aid station, I consulted the head of a district association and collected contributions to acquire equipment. I bought as many drugs and hygiene products as possible in the city. Since Kusatsu had a population of approximately 7,000, I prepared drugs and hygiene products for 300 to 500 people. I thought such an amount of drugs and products would be sufficient even if bombs fell and wounded some people. They included olive oil, castor oil, and injection drugs. Since the supply of bandages was restricted, I had women's association members prepare substitutes for bandages. They made many substitutes by tearing *yukata*, a summer cotton kimono, into strips. I used a science room in Kusatsu Elementary School for the aid station, because gas and water were available there.

Kimura: Since there had been air raids many times before the atomic bombing, aid stations had been established, hadn't they? How about Dr. Ota?

Ota: I worked at the Department of Ophthalmology of Hiroshima Prefectural Hospital located back to back with the prefectural office in Kako Town. Though it was a prefectural hospital, it had only 10 to 40 beds. Since its director had gone to the front in 1943, I was the only doctor in the hospital. There was an eye clinic named Hotta Ganka near the hospital, and Dr. (Ken) Takahashi of the clinic, who was of an advanced age, came to help at the hospital approximately three times a week. Half of the nurses had gone to Sagotani Village to engage in building evacuation and food production. Only a director, who hadn't been called up for military service due to age, and six or seven female doctors were left.

I saw... two parachutes dropping down... a red flash went off in front of my eyes...

Kimura: Would you tell me the situation when the atomic bomb was dropped?

Ota: Half of the hospital building collapsed, and most inpatients were missing. Since there had been few outpatients, I was still at home in Ushita (approximately 2 km away from the ground zero) at 8:15, preparing to go to the hospital. Then, I saw an aircraft flying toward the city and went out to the garden, wearing only a white blouse and underwear. Since enemy aircraft had frequently dropped leaflets around that time, I thought the aircraft would drop something. Looking up to the sky, I saw a B29 flying eastward and two parachutes dropping down. Immediately on seeing that the B29 had dropped something, a red flash went off in front of my eyes. Since a Grumman had flown over a few times before that, I realized a bomb had been dropped, and thought I must enter a bomb shelter. However, I don't remember anything else, because I became unconscious. When I came back to consciousness, I found myself squatting down 10 m away from the house. A house next door had collapsed, with roof tiles and wall clay falling down. These tiles and clay debris made it hard for me to breathe and I came back to myself. A mud wall on the boundary with the neighbor's house had collapsed without leaving any trace.

Kimura: I experienced the atomic bombing at a place 900 m away from the ground zero. I gasped in surprise, and was immediately covered with soil. The impact of the bomb there might have been stronger than in Ushita.

Ota: I think so. I felt suffocated, as if I were going to die, and stood up to evacuate to the river. Though I had bruises all over my body, I felt no pain. In ordinary circumstances, I couldn't have stood up. When I arrived at the river, I found a chaotic mass of people, some of them calling out their children's names. I suddenly came to myself and returned home. The house was barely still standing, as the ceiling had fallen down and the second floor had collapsed.

Kimura: Did you suffer burns?

Ota: No, because I fell down under a tree and was wearing white clothes. At that time, we were told to wear black to remain inconspicuous, but that would lead to the opposite result. People in front of my house were all badly burned. My mother and a niece, who had been in the house, were safe. When the straw roof of the house caught fire, my mother ran out of the house, carrying my niece on her shoulder. A nearby temple wasn't burned, because soldiers staying there battled the fires. However, houses by the riverside were all burned down. A next-door neighbor came back to his house, which had begun to catch fire, to get his baggage and was burned to death.

At that time, we were required to take a card-sized cordon pass with us wherever we went. Soon I went to the national elementary school in Ushita, because we were obliged to go to an aid station in case of emergency.

The army surgeon at first looked healthy (and provided medical care)... he died the following morning... all the people there, who had been groaning with pain at night, had died...



The school was badly damaged, but didn't collapse. However, there was nobody there except a person who had lost much blood and was going to die. I thought there was no aid station established there, and headed for a mountain, feeling scared. On my way, I saw many injured people, whose faces were so terribly swollen up as not to be recognizable, saying, "Doctor, help me." Since I had an aid bag, I administered injections and provided other medical care to them, while heading for the mountain. There were many charred bodies in Ushita as well. Those people had died directly from burns.

Waseda Shrine was at the top of the mountain. We were told to stay there, because enemy aircraft might come again the following day. However, I thought it was useless to stay there without doing anything, and went down the mountain to find flat land, where many injured people were gathered. I automatically provided medical care to them until the evening.

Kimura: How did you procure medical supplies?

Ota: I found out later that Dr. (Kikuo) Fukagawa, an eye doctor in the neighborhood, had had drugs. Since an army surgeon was also there with soldiers, he might have drugs. The army surgeon at first looked healthy. However, he gradually became sick from the evening, with his skin beginning to peel off, though he didn't seem to suffer burns, and he died the following morning.

In the evening, I ate rice porridge in a nearby house and slept in the entrance of the house that night. All the injured people there had suffered burns, and their skin was peeling off. Students and soldiers had been evacuated to Ushita.

The river in front of the road flashed... the area around Hiroshima City was covered with a cloud of dust... burns that were white with the fat layer under the skin peeling off...

Kimura: What did you do on that day, Dr. Sato?

Sato: Since it was hot, I was making house calls from early in the morning. When I had visited a patient in his house close to Kusatsu Bridge and was going out of the doorway of his house, the river in front of the road flashed. It was a faint yellow flash. Without thinking, I dropped to the ground, turning my body around. Then, I heard a boom, because it took some time for the sound to reach me after the flash went off. Usually, bombs caused an earth tremor when they landed. However, nothing occurred that time. I thought another bomb would be dropped, and remained lying down for approximately a minute. Since nothing else had happened, I stood up to find that the glass of the entrance door and the sliding paper screens were shattered into pieces on the earthen floor. Fortunately, I was safe and uninjured. I went to the road, which is today's Route 2, from which I saw that the area around Hiroshima City was covered with a cloud of dust. It looked blurred due to something like smoke or dust.

Soon I returned home and found my wife was safe and also uninjured. Though my five-year-old son had been playing outside, he was also safe. The ceiling of the house was blown approximately 30 cm up by the bomb blast. A veranda facing onto the central courtyard was also raised approximately 30 cm.

Anyway, I rushed to an aid station by bicycle. There were several people who had been injured by broken glass at Kusatsu Elementary School. While I was treating them, more and more people came to the school. Almost 100 people gathered there in half an hour. By the evening, there were almost 1,000 people who had come from Fukushima Town, Kanon Town, and the central part of the city. They all had suffered burns and their skin was completely peeling off. I applied some oil to their burns.

Ota: Usually, burns are red, with the surface skin peeling off. However, people there suffered burns that were white with the fat layer under the skin peeling off.

Sato: Yes, I remember. Their faces looked white though it was summer. There were a variety of injured people. They included a person whose entire upper body was covered in burns and another with pieces of broken glass throughout the whole body. A young woman's face had been cut completely in half. Though I sewed up the cut, I still sometimes wonder whether she could have escaped death. I also saw a child, approximately 10 years old who had an angular tear deep in his head with his skull showing. People were so tightly crammed into the science room, where tables were set

up, that there wasn't even an inch of space. People waiting for their turn fell down one after another in front of others. In some cases, people who had just received treatment died while I was treating the next patient. I arrived at the aid station at 8:30 in the morning and was unable to even go to the bathroom until late in the evening, because there were just too many injured people. Eventually, I jumped out of a window of the room to go to the bathroom late in the afternoon. It was hell on earth. I treated people without eating and drinking until late in the evening. Then, I drank milk and *sake* brought by a liquor store clerk at the staff room, and went back to the science room to treat people.

In the evening, the classrooms downstairs, corridors, and schoolyard were all filled with people lying down. Dr. (Konosuke) Naganuma of the department of otorhinology, Dr. (Goro) Tarutani of the department of surgery, and Dr. (Misao) Sasaoka probably of the department of pediatrics were also injured and crouched down in the corridor. Though I didn't know where those three doctors were taken from the school, I heard that all of them died. All through the night, I heard people crying, "Give me water!" "Help me!" and "It hurts! It hurts!" It was an indescribable experience.

I applied the deep-frying oil of a *kamaboko* (fish sausage) store to burns...

Kimura: Would you tell me about paramedical workers?

Sato: Though the nurse from my clinic worked cooperatively, the number of spare nurses from the women's association decreased to a few, because they had injured family members and evacuees at home.

Since I ran out of drugs and medical care items in the morning, I procured a can of deep-frying oil from a *kamaboko* store. Then, all that I could do was to apply the oil and iodine tincture to burns. Though I administered cardiotonic drugs to those who were severely weak, I soon ran out of the drugs. Therefore, I brought drugs and medical care items from my clinic for replenishment. While I was treating people, B29s and Grummans flew over us. Since I was absorbed in treating people in a classroom, I didn't notice that black rain fell.

Kimura: How about you, Dr. Ota?

Ota: I didn't notice the black rain, either. I don't think the black rain came down in Ushita.

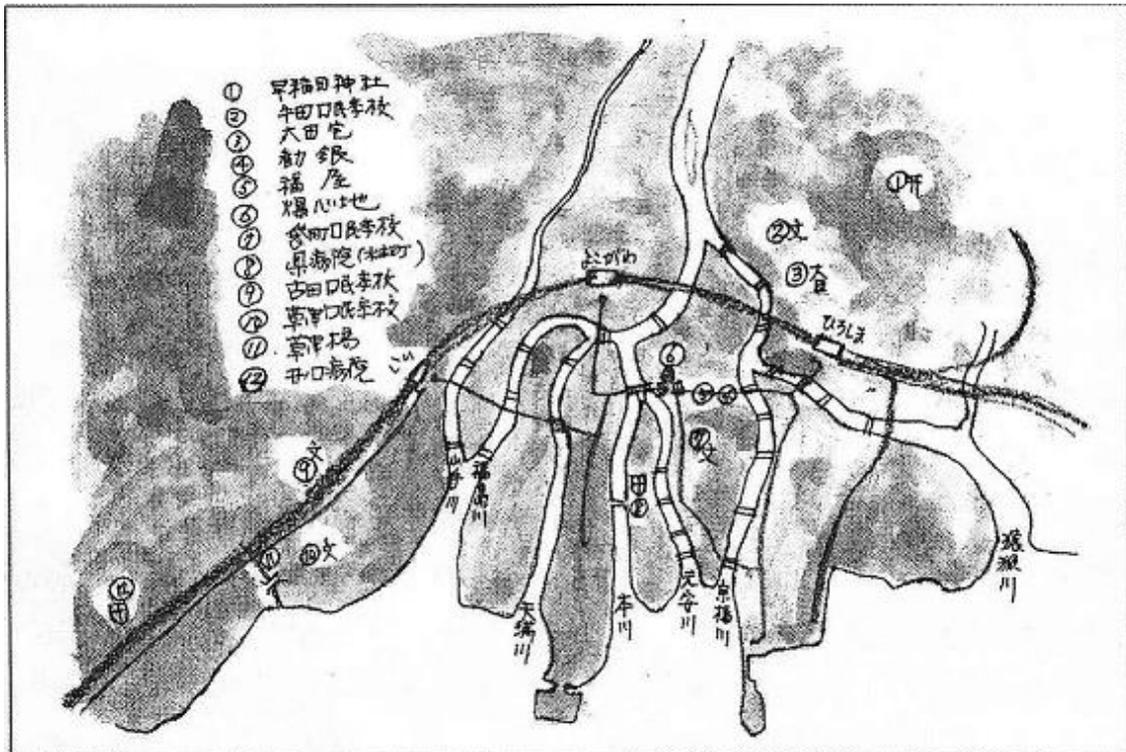
Kimura: I evacuated to Yamate Town, where the black rain came down heavily.

Sato: My eldest daughter was enrolled in the First Hiroshima Prefectural Girls' High School at that time. Many students of that school were instructed to go to the Red Cross

Hospital on the day and died. However, my daughter was dispatched to an aircraft parts maintenance factory in Takasu. She was caught in the black rain there and came back home with her entire body blackened.

Kimura: Were your four family members safe?

Sato: Fortunately, they were.



- ① Waseda Shrine, ② Ushita Elementary School, ③ Dr. Ota's House, ④ Kangyo Bank,
- ⑤ Fukuya Department Store, ⑥ Hypocenter, ⑦ Fukuromachi Elementary School,
- ⑧ Prefectural Hospital (Kako-machi), ⑨ Furuta Elementary School,
- ⑩ Kusatsu Elementary School, ⑪ Kusatsu Bridge, ⑫ Inokuchi Hospital

I was constantly asked to treat them and made house calls all day long...

Kimura: There were approximately 1,000 people in the aid station in Kusatsu, weren't they? How was the situation in the place near Waseda Shrine?

Ota: There weren't so many people. Injured people happened to come together to an open space.

Kimura: Wasn't it an official aid station?

Ota: No, it wasn't. When I woke up in the morning on the following day, all the people there, who had been groaning with pain at night, had died.

Sato: That's the same as my experience. There were many dead bodies lying in the

classrooms and the schoolyard the following day.

Ota: Since I was unable to stay there forever, I returned home on August 8. My house had burned down. However, a rented house remained without being consumed by fire, though it was heavily damaged, with the second floor almost falling down on the road. The house was located on the back of a temple, and I decided to live there after straightening it up. Since there were many injured people in the neighborhood, I was constantly asked to treat them and made house calls all day long.

I had buried many drugs, including rubbing alcohol and cresols, in the garden of my burned-out house. My father had died in 1943, and my sister had returned home to succeed our father. However, she had died in 1944, and there had been many drugs left. Though I wanted to go to the burned-out house to fetch the drugs on the day of the bombing, I saw the area on the other side of the center of Ushita blackened with smoke as if a black curtain were drawn. Therefore, I went to the house on August 9, when ashes of the house were still hot. I fetched the drugs, with which I treated people in the neighborhood.

Through the burned-out area, I walked to Hiroshima Prefectural Hospital in Furuta, drinking warm tap water...

Ota: On August 8, my brother came home just for the day, because the submarine he was on board returned to the Port of Kure due to a malfunction. However, I was in bad shape on that day because I had had black tarry stool and had a splitting headache. On August 9, I vomited something black. I was unable to get up that day and stayed in bed for a whole day. On August 10, I thought I must go to Hiroshima Prefectural Hospital, and left for the hospital. The road to the hospital had been already organized. On the burned-out site of the hospital, there was a message saying to go to Furuta. Therefore, I walked toward Furuta. Though enemy aircraft were still flying overhead, I continued to walk because there was no place to hide. I didn't mind dying. Fortunately, plenty of tap water was available, and I walked to Furuta, drinking warm tap water. Since it had been decided that people in Hiroshima Prefectural Hospital would take refuge in Furuta Elementary School in case of emergency, all injured people in the hospital had been taken to the second floor of the school. There were Dr. (Soichi) Matsumoto and Director (Takeo) Rai, as well as my acquaintances, Ms.S and Dr. (Hajime) Onogi. The family members of the doctors were also evacuated there, because they were burned out of their homes. My microscope also had been moved there, and Dr. Chuta Tamagawa and Dr. (Yoshimatsu) Kanamori used it to conduct autopsies. We provided medical care

only on an outpatient basis, applying some Mercurochrome and zinc oxide oil to burns and injuries. Since these drugs were applied with brushes, to which pus was attached, it might have been better not to have applied them.

Sato: I also soon ran out of zinc oxide oil. All that I could use was iodine tincture and deep-frying oil.

Kimura: Dr. Sato, did you go to the aid station in Kusatsu on the second day as well?

Sato: Yes, I stayed in the school for a week without returning home.

Kimura: Did you have black tarry stool?

Sato: Fortunately, I didn't at all. Though I experienced the atomic bombing at a place only 4 km away from the ground zero, I was safe probably because I stayed in my house. Though pieces of broken glass were scattered around the room, I was safe with no injury. My clinic was located approximately 100 m away from my house. In the clinic, the glass facing toward the road was broken to pieces, which remained between medical record holders even a year after the bombing. Moreover, the strong blast blowing through the clinic threw drug bottles to the floor, where broken glass and drugs were mixed together in a mess.

Their wounds began to be infested with maggots... We cremated them (dead bodies), and doctors from medical associations in various prefectures came to help us...

A few days after people experienced the atomic bombing, their wounds began to be infested with maggots and flies. Dead bodies in the schoolyard were left as they were. Exposed to the fierce glare of the sun, they emitted a putrid smell, with their bellies swollen up.

Ota: Well, it was a terrible sight to see dead bodies. Their bellies were swollen up, with their tongues lolling out.

Sato: Even several days after the bombing, the corpses were still left as they were. Though we wanted to have them transferred, people in Kusatsu were busy taking care of their relatives, friends, and acquaintances moving from other areas. Though a civil defense unit was supposed to provide assistance, its members were also busy with their own affairs. On August 6, approximately 150 residents in Kusatsu had gone to Minami Town to help demolish buildings, and experienced the atomic bombing there. Since their family members and relatives went out of Kusatsu to look for them, there was nobody that could provide support to us. Finally, the head of the district association, the chief priest, and a few other people including a principal of elementary school and me got rid of the dead bodies. Since there was no firewood, we asked the police to

procure a truckload of firewood. We placed the firewood in the bomb shelter, which was roughly dug in the schoolyard, and carried the dead bodies to the shelter. When dead bodies were identified by their relatives or friends, we attached a name tag to them. However, we were unable to do anything for other unidentified bodies. We placed all dead bodies in the shelter and cremated them with the firewood. Three or four days later, approximately 10 military corpsmen came to support us and stayed there for a few days. Then, doctors came to help us from the Kansai region four or five days later. They happened to include three of my classmates when I was in Nagasaki, who had a practice in Kobe and Osaka.

Kimura: Were they instructed to come?

Sato: They were instructed by medical associations in various prefectures to provide assistance, and stayed there for a few days.

Kimura: So, medical associations took action, didn't they?

Sato: Yes. Then, approximately 10 days later, seven or eight members of the Japanese Medical Corps came to help us. That made us less busy. However, we, in turn, had to prepare for meals for patients in the school, as if we had been staff members of a district association. We counted the number of hundreds of patients and dozens of deceased people in the school to ask the city office for rice and miso for the patients, while intermittently providing medical care. Eventually, I stayed in the school for approximately a week, and then went there from home for a month. After the members of the Japanese Medical Corps took over caring for the patients, I resumed medical care services in my clinic.

I only filled in death certificates in the aid station in Nippon Kangyo Bank...

Ota: Speaking of the Japanese Medical Corps, it was confusing at that time that Hiroshima Prefectural Hospital was attached to the Japanese Medical Corps or Hiroshima Prefectural Medical School. As for me, I attended the aid station in Furuta, going from Ushita on foot under a blazing sun from August 10 to 15. On the way to and from home, I sometimes picked some vines of sweet potatoes and pieces of wood to use as food and firewood. During that period, there was nobody walking in the city. After the Emperor's surrender speech at noon on August 15, I was instructed to take charge of an aid station in Nippon Kangyo Bank, though I didn't know who instructed me. I was the only person whose house remained in the city. Even now, nobody knows that an aid station was established in Nippon Kangyo Bank. There is no record about it, either. I don't think it was an official aid station. Maybe, injured people

spontaneously gathered together in that place, located down by a shrine in Ushita. There remained only the building of the bank, where people lay down on a straw mat. There were three other staff members: Mr. F, a police sergeant; Mr. K, a pharmacist, and the father of Dr. (Ryo) Oda in Hakushima. However, as soon as I arrived there, Dr. Oda's father, who was assigned to serve as the head of the aid station, returned home, saying to me, "Since I am in poor physical shape, I will go back to my hometown. I'll leave the matter to you." He never came back. Therefore, I had to work as the head of the aid station, though my name wasn't mentioned anywhere. Three staff members were left – the police sergeant, the pharmacist, and me. However, there were neither drugs nor medical care items.

Kimura: How many injured people were there?

Ota: There were plenty of people enough to fill the floor of the bank. Approximately 100 people were there. Every day I only filled in death certificates, instead of providing medical care. Many people died every day. We were able to offer only a little food placed in an empty can. It was a terrible situation. Since Dr. (Yoshimasa) Matsusaka took charge in the Higashi Police Office, I went there a few times to ask for drugs.

The acute symptoms of A-bomb disease were misdiagnosed as dysentery, and they were taken to the burned building of Fukuya Department Store...

Kimura: I'd like to hear about the symptoms of patients. I heard that most people had suffered burns and injuries at first. Did their conditions change later? Did acute symptoms begin appearing around August 15?

Ota: They began to lose their hair and have spots on their skin at the end of August.

Sato: Right. Then, they vomited blood. I wondered whether they had caught tuberculosis. In addition, they discharged blood from their bowels.

Ota: They were diagnosed with dysentery at that time, and were taken to the burned building of Fukuya Department Store.

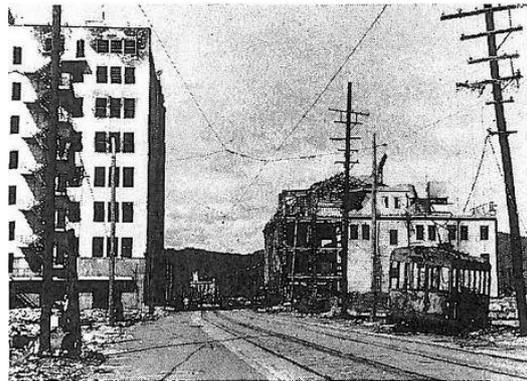
Sato: Many people died, vomiting blood, as if they suffered from gastric ulcer or pulmonary tuberculosis. At that time, they just seemed to suffer from dysentery.

Ota: At the end of August, they began to look blue and yellow and purple-red spots appeared on their skin, which resembled scattered ink and were different from normal spots.

Sato: These symptoms were seen most frequently from the end of August through September, and gradually decreased in October.

Ota: It was on August 23 or 24 that I first saw acute symptoms appear. I never forget

the day, when I went to the aid station to receive my salary. I arrived at the aid station to hear that people who had been well when I had last seen them were all dead, including nurses. I wondered what had happened to them. Though there had been a room for those connected with Hiroshima Prefectural Hospital, it was completely empty.



Around Fukuya Department Store (left) after A-bomb. 1945

She cried to the American journalist, “Take my child to the U.S. and put him on show!”

At the beginning of September, an American journalist came to the aid station for the first time.

There was a child whose back was all burned, with the back of his head split open. He was neither able to lie down nor sit up. His mother said to us, “Please kill him. Please kill him. He is too miserable.” She also cried to the American journalist, “Take my child to the U.S. and put him on show!” When I stared down at her, she also stared back at me without turning her eyes away from me.

Since the aid station received people who had lived in the center of the city, many lawyers and well-known people came. A man who worked as an assistant to a prosecutor had his back all burned. When I took off gauze from his back, I found that many maggots were adhered to the gauze and the condition of his wounds was improved. Since the maggots had sucked pus from the wounds, I did not need to provide medical care to him. Instead, the maggots became plump. However, all of these patients, including him, soon died. Though they were all well known in the area, nobody came to claim their dead bodies.

Kimura: Well, there were many cases where all family members were killed by the atomic bomb.

Ota: Eventually, most people in the aid station died. Dr. Matsusaka told me that he would transfer the rest of the people to an aid station in Yaga, which he would organize, and that I should take charge of an aid station in Fukuromachi. Therefore, I went to the aid station in Fukuromachi in September. My picture was taken there by a cameraman of the Asahi Graph. The picture is now displayed in the Hiroshima Peace Memorial

Museum.

Acutely-ill people had already died. Other people had spots on their skin and lost their hair...

Sato: Some residents in Kusatsu went to Minami Town to assist in demolition of buildings, and experienced the atomic bombing there. Almost all 150 residents that went to Minami Town died within a month.

Kimura: What symptoms dominantly appeared at that time?

Sato: Acutely-ill people had already died. Other people had spots on their skin and lost their hair.

Kimura: Dr. Ota, how was the situation in the aid station in Fukuromachi?

Ota: A treatment room was established in a space under the stairs, and a row of classrooms were used as patients' rooms. There were the Health and Medical Department and the Pharmaceutical Affairs Department of the Hiroshima Prefectural Government on the second floor. Though Dr. (Kaoru) Shima was responsible for the aid station, I was the only doctor working there. Since no white coat was available, I didn't look like a doctor. Nurses were dispatched from other prefectures in turns, and there were always two nurses.

Kimura: How many patients were there?

Ota: Nurses took care of inpatients, and I treated outpatients. Many outpatients came there. Outpatients at that time included those who had normal injuries and those with improved symptoms who returned from suburbs. I wondered when and from where so many people came back. At the time, I felt fatigued, and only drank water for a week without eating anything. Since an investigation team from Faculty of Medicine Kyoto University came to the aid station, I had myself examined by one of the team members. Examination results showed that my erythrocyte sedimentation rate was 60, and that both white and red blood cells were fewer than normal. Though I had my erythrocyte sedimentation rate tested twice, the results were the same. I thought my erythrocyte sedimentation rate was high because I suffered a relapse of pleurisy, from which I suffered in my school days, due to overwork. Though he told me that he would test me for pleurisy another time, he died in the line of duty due to the Makurazaki Typhoon on September 17 (at Ono Military Hospital, Ono Village, Saeki County, where he stayed).

Kimura: Did you have other symptoms?

Ota: I missed my period. I was so committed to my work that I didn't notice that in August. I missed it in September as well, but had it in October, when the lymph nodes

in my neck were badly swollen. Even when I got a scratch on my leg, all the small lymph nodes near the scratch were swollen. Though glucose injections at that time were so terrible as to cause the shivers, I received an injection of Takeda's Lodinon, which was kept for special occasions, mixed with some vitamins. They were very effective for me. I was cured in a week.

Kimura: Did you fully recover from your disease?

I have felt pain in the muscles throughout my body, from the top of my head down to the soles of my feet... I call my disease ...A-bomb *itai-itai* disease.

Ota: Not at all. I worked at the aid station in Fukuromachi until the spring of the following year (1946). Then, I was instructed to take charge of an aid station in Kusatsu. When I went to the aid station in Kusatsu, the hospital director had changed from Dr. (Shuzo) Ishibashi to Dr. (Iwao) Kurokawa. Though I was told to take charge of the department of ophthalmology for the first time, there were neither medical devices nor a darkroom. Therefore, even if I was in the aid station, I had nothing to do. (At the time, Hiroshima Prefectural Hospital was rebuilt in its current location.) Then, I was instructed to take charge of an aid station in Inokuchi. Since I thought I could never engage in ophthalmic treatment, I quit my work in October 1947.

In 1948, I began to provide ophthalmic treatment in a small hut, using a secondhand ophthalmoscope that I bought with my retirement money. I began to till the burned-out land from the following day to grow wheat and vegetables. I overworked myself.

In 1951, I got a stunning headache, like one I suffered on August 9. I continued to vomit for half a day, and then got into worse condition. I had some spots on the skin of the upper body and other symptoms. These symptoms continued to appear for three to four years. I still sometimes have some red, rice grain-sized spots on my skin.

Kimura: How about you, Dr. Sato?

Sato: Half a year after the bombing, I got a fever of 39 degrees. However, I had no symptoms other than a fever, and got well in three to four days. Therefore, I thought I had overworked myself, because I had never really been sick before.

Ota: Since then (1951), I have felt pain in the muscles throughout my body, from the top of my head down to the soles of my feet, and have had a low pulse of 40 to 50 beats. Moreover, I have often felt dizzy and nauseous. Though my white blood cells once decreased to 2,000, no major diseases have been detected. I have been in bad physical shape since 1951. Dr. (Masao) Tsuzuki said that A-bomb victims were the same as

those who had no savings. I think so from the bottom of my heart. All that I have done so far is to do my job, and there was nothing else that I could do.

There are few people who were exposed to radiation like me. I passed through the ground zero every day for more than two years, picking up usable items, or things to eat, and drinking water in the ground zero. Therefore, I think my symptoms appear differently from others. I intend to donate my entire body after I die.

Kimura: Do you still have any symptoms?

Ota: I still need to have myself massaged. In 1975, I underwent an operation for thyroid cyst.

Sato: Many people with A-bomb disease suffer from goiter, don't they?

Ota: I was told that arteriosclerosis had developed even in arteries of my heart.

Kimura: Then, do you continue to have symptoms like *bura-bura* disease ones for more than 20 years?

Ota: I call my disease not *bura-bura* disease, but *itai-itai* disease. I really feel tired all over. I feel my body is heavy, as if I were dressed in armor. However, I am lucky to have been able to have done my work. I am a special human guinea pig. There are few people like me, who survive after having commuted every day from Ushita to aid stations in Furuta, Nippon Kangyo Bank, Fukuromachi, Kusatsu, and Inokuchi for more than two years.

I just want to say this!

Kimura: Lastly, do you have something you want to say?

Sato: The atomic bomb was terrible. It made ordinary citizens, who were not directly involved in the war, die a miserable death. I have no words to describe... We can only

hope for the abolition of atomic and hydrogen bombs, and nuclear weapons.

Ota: I can complain about the atomic bombing, because I am alive though suffering pains. However, many people died unrewarded, without being able to say anything. People who were tragically killed by the atomic bomb were unable to say anything. I think *hibakusha* health booklets may be issued even to those who don't really know the horror of the atomic bomb. The administrative bodies should organize the situation of support for A-bomb victims and provide adequate support only for people who actually experienced the atomic bombing. Of course, I know I shouldn't say this openly.



Kimura: Thank you very much for telling these moving stories for many hours.
(August 1978 issue, “*Genbaku Tokushu* (Special Feature on Atomic Bombing) ”)

Chapter 2: Establishment of Hiroshima Atomic Bomb Casualty Council (HABC) and Research on the Late Effects of the Atomic Bombs

Three months after the atomic bombing, the survivors who had been burned or had developed acute radiation syndromes such as loss of hair or bleeding gradually regained their former vigor, and some of them even went back to their normal lives. Shortly after that, however, by the end of 1945, they began to suffer from burn scars and keloids. From around the same time, health concerns began to arise among those who had recovered from acute radiation damage. Then from about three years after the exposure, those health problems became apparent in the form of various blood disorders such as pernicious anemia or leukemia. At the same time, “atomic bomb cataract,” an ophthalmic disease due to the opacity of crystal lens began to draw people’s attention.

Thus it was almost three years after the atomic bombings before their surgical, medical, and ophthalmic late effects became known. This issue, however, had yet to become a significant problem because of the difficulties in treatment and the medical situation at the time. Instead, most of those suffering were left untreated and forced to live in the shadows. This tragedy was amplified by social factors along with the damage from the bombing itself. The General Headquarters of the Allied Powers (GHQ) issued a press code on September 19, 1945, trying to completely contain criticism against the use of the atomic bombs. Consequently, information concerning the damage as well as medical researches and publications were extremely restricted.

At around the same time as the end of the Occupation, fully-comprehensive relief measures for A-bomb survivors finally began, after being long neglected. Volunteers from the Japan P.E.N. Club including Shizue Masugi and Tatsuzo Ishikawa, and members of the Tokyo cooperative society affiliated with the Hiroshima Peace Center provided support for the activities of Kiyoshi Tanimoto, a Methodist minister of Hiroshima Nagarekawa Church, who had continued to support the children who had lost their parents as a result of the bombing. As a result, nine girls then called the “Hiroshima Maidens” were sent to the Koishikawa Branch of the University of Tokyo Hospital for medical treatment in June, 1952. This activity then expanded to Osaka, and 12 more girls were dispersed among hospitals including Osaka University Hospital in December.

The media reported extensively on their medical treatment, partly because it was just after the Peace Treaty of San Francisco came into force. Many people asked whether doctors in Hiroshima could provide the treatment for them. In response, doctors in Hiroshima, mainly from Hiroshima Prefectural Surgeon Association, united under the

slogan: “We will treat A-bomb survivors in Hiroshima” in their desire to provide the treatment even if they paid all the expenses. In response to this, the city government of Hiroshima, in cooperation with the Hiroshima City Medical Association, decided to implement the treatment of A-bomb survivors, which led to the establishment of the Hiroshima City Atomic Bomb Survivors' Treatment Council (currently Hiroshima Atomic Bomb Casualty Council: HABC) on January 13, 1953 as an organization for the treatment of A-bomb survivors.

On January 18, 1953, the first treatment after the establishment of HABC was provided at the Hiroshima City Hospital. As news about the start of the treatment became known, various requests and inquiries about the treatment flooded in. There were many people who wished to receive treatment other than surgical care. To meet those demands, the treatment section of HABC (Section chief:



Joint medical examination for A-bomb survivors (Hiroshima City Hospital), January 19, 1955

Yoshimasa Matsusaka) held a section meeting on May 31 and decided to implement consultation and treatment for medical and ophthalmologic disorders as well as surgical cases. Based on this decision, these three medical departments jointly provided treatment at the Hiroshima Medical Association Building on August 8. At the same time, the survivors' direct visits to public and private hospitals were made possible. Later on, the treatment for A-bomb survivors advanced remarkably with the regular treatments that started once a month in public hospitals from January 27, 1954.

The physicians in Hiroshima thus paved the way for the A-bomb survivors' treatment as the result of their sense of mission and continuous efforts. For example, in the case of surgical treatments, which had been discussed most extensively at the time of the establishment of HABC, some hundreds of surgical operations to treat keloids with skin grafting had been performed in Hiroshima Teishin Hospital (hospital affiliated with the Ministry of Communications) since around the end of 1945 by Dr. Gen Katsube, chief surgeon of the Surgery Department and Shigeru Okamoto, who later returned from the war. Then in 1949, Dr. Tomin Harada developed the surgical technique of the pedicle flap operation and produced great results. In addition, steady research efforts had been made by many doctors including physicians Michihiko Hachiya, Director of the Hiroshima Teishin Hospital, Takuso Yamawaki at the Hiroshima Red Cross Hospital, and Gensaku Oho and Hiromi Nakayama in private practices, and ophthalmologists Ayao Koyama at the

Hiroshima Teishin Hospital and Shigenori Sugimoto in private practice, in the midst of their busy treatment schedules. The accumulation of such efforts became the driving force leading to the establishment of HABC, and the early start of the surgical treatment as well as the medical and ophthalmological treatment.



Scenery of Doyokai (Saturday Club),
(Oho clinic)

The efforts and contributions of the “Doyokai (The Saturday Club)”, a research group of practitioners and doctors with different specializations, for the treatment of A-bomb survivors might not have been sufficiently recognized. At the end of 1948, the Doyokai was launched by eight doctors. Akira Masaoka (obstetrics) and Tomin Harada led the club; other members were: Jun Makidono (radiology), Gensaku Oho, Muneyuki Mizuno, and Kiyoshi Takada (internal medicine), Hideo Goto (ophthalmology), and Ken Takeuchi (surgery). The club meeting was held once a month and the members took turns to offer their houses for the meeting. Thus they continued their researches. Later, new members including Hiromi Nakayama, Takashi Nagasaki, and Hiroshi Takada (specializing in internal medicine), Shunji Fujii (surgery), Genro Tsuchiya (ophthalmology), and Kazuo Takiguchi (otolaryngology) joined the Doyokai, further enhancing its activities. As the members continued their researches, medical treatment for A-bomb survivors became a common theme in the course of things. They all suspected that A-bomb survivors might be vulnerable to illness and anemia, be less resistant, and have short life expectancies. To prove this, Gensaku Oho conducted factual investigation at his own expense. He established that there was a higher percentage of cancers amongst A-bomb survivors. He published this opinion and gained attention. A little while later, in 1956, Hiromi Nakayama devised a unique health booklet for A-bomb survivors which contributed to their health care, for which he should be remembered.

For HABC, which played a pioneering role for the treatment of A-bomb survivors, funding was a major issue of concern. Donations from Japanese residents of Hawaii and NHK’s community chest were set aside to treat A-bomb survivors at that time, but that did not contribute enough to relieve the shortages of funds. Moreover, high dependence on private funds could cause a negative impact on their sustainable activities. To solve this situation, the movement requiring public funding was initiated. This requirement was fulfilled from fiscal 1954, and this movement finally achieved enactment of the Act for Atomic Bomb Sufferers’ Medical Care on March 31, 1957.

This law was a big step forward in that it enabled A-bomb survivors to have medical care funded by the government. This law, however, had some problems: financial support for living expenses was not included; No medical facilities had been constructed for the survivors' secure medical care; The A-bomb disease certification procedures were complicated; there were not many designated medical care providers. To improve the situation, doctors in Hiroshima, in cooperation with both prefectural and city governments of Hiroshima, tried to reform the law, and succeeded in achieving this reform on August 1, 1960. Moreover, the A-bomb Survivors Special Measures Law was enacted in May, 1968, guaranteeing the survivors special allowance, health care allowance, nursing allowance and other benefits in addition to the conventional medical allowance.

Meanwhile, HABC and the Hiroshima City Medical Association devoted all their energies to promoting the medical examination of the survivors. All the doctors cooperated with this movement to establish medical facilities where the survivors could receive secure medical care without any stress. As the result, by receiving the allotment of contributions from the charitable New Year's postcards in 1958 and 1959 fiscal years, HABC established the Hiroshima Atomic Bomb Survivor Welfare Center (Atomic Bomb Center), and inside the same building they established the Hiroshima Atomic Bomb Survivors' Health Maintenance Center, with the cooperation of the Hiroshima City Medical Association. This center commenced its operations as of July 1, 1961, and by this achievement, medical examinations for the survivors have been dramatically promoted.

Section 1 Research on the Late Effects of the Atomic Bombs

Progress of research on the late effects of the atomic bombs

Nanao Kamada

Associate Professor Department of Internal Medicine, Research Institute for Nuclear Medicine and Biology, Hiroshima University (at the time of publication, 1980)

1. Preface

The past 35 years of research projects on A-bomb diseases are of a wide range and colossal importance, and reports on some of them have already been published in book form. I will leave the detailed content of such research to be described in those books. Instead, in this section, I will attempt to approach this issue from an angle that is as different as possible from standard medical perspectives. The following is the overview of the history of research carried out on the late effects of the A-bomb up to today, including the transition of research organizations and the number of papers published.

2. Transition of research organizations

Figure 1. shows the outline of the transition of research organizations that were closely related to the promotion of research on the late effects of the A-bomb.

As for the direct atomic bomb damage in Hiroshima and Nagasaki, two reports were published: Reports on the A-bomb Damage (summary) published in August, 1951, and Collection of Reports on the A-bomb Damage published in May 1953. They were the results of the scientific research for which the committee for the investigation of atomic bomb damage organized by the Research Council of the Ministry of Education played the central role, and the committee divided themselves into nine groups of fields including medicine, science and technology, and biology to do the research.

There were approximately 280,000 A-bomb survivors nationwide at the time of 1951 according to the national census taken in October, 1950, and they had developed various aftereffect symptoms that were presumed to be caused by the atomic bomb damage, which had begun to draw people's attention. In response to this, "the Japanese Atomic Bomb Disaster Investigation Group" was organized as a general research program of the Grant-in-Aid for Scientific Research by the Ministry of Education in 1952. During the three years from 1952 to 1954, comprehensive investigation was conducted, and achieved its major objectives. This group of 31 members was then transformed into a new one from 1955 with new objectives: clarifying the realities of the late effects of A-bomb damage,

and collecting materials related to its prevention and treatment measures. The establishment of this group can be seen as the beginning of the research on the late effects of A-bomb.

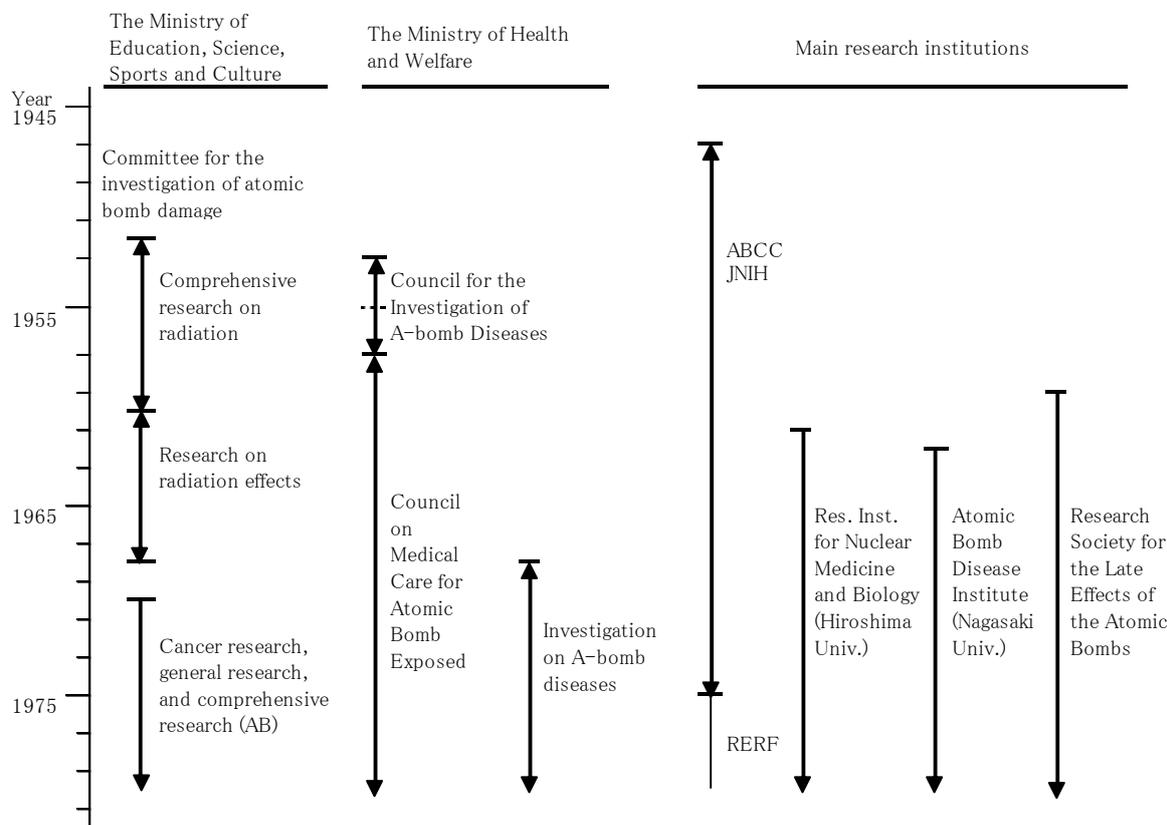


Figure 1. Outline of the transition of research institutions

The research done by this group has also created the basic and purely theoretical foundation concerning research on the influence of radiation and A-bomb disease certification introduced in later years. The leader of this group was Hiroshige Shiota (Nippon Medical School), and its main members were: Shigeyasu Amano, Takehiko Kikuchi (Kyoto University), Masashi Miyake, Masanori Nakaizumi, Kiku Nakao, Masao Tsuzuki (Tokyo University), Susumu Hibino (Nagoya University), Yasuo Kawakita (Kumamoto University), Tomiichi Masuya (Kagoshima University), Ichiro Hayashi, Raisuke Shirabe, Masanobu Tomonaga (Nagasaki University), Kunio Kawaishi, Jiro Uraki, Susumu Watanabe (Hiroshima University). Three years later, in 1958, following the so-called “Bikini Atoll case” that had occurred back in March, 1954, a new group for comprehensive investigation on atomic and hydrogen bomb damage was organized, with research on the influences of radioactive fallout being included as a part of its mission. Different from any other groups organized previously, this group consisted of 20 members

including scholars from various fields such as physics, chemistry, and radiobiology. The group leader was Hiroshige Shioda (President of Nippon Medical School), and the members who joined from the previous group were Masashi Miyake, Takehiko Kikuchi, Susumu Watanabe, Jiro Uraki, Raisuke Shirabe, Masanori Nakaizumi, and Masao Tsuzuki. Their research on the late effects of the atomic bombing was, with people's increasing awareness of radiation after the Bikini case, further promoted as part of the research into the effects of radiation. Naturally, the research activities supported by the government's Grant-in-Aid for Scientific Research program were included in the comprehensive investigation on "Radiation Effects" that was started in 1960. One of the eight fields in this study was the investigation group of physical disabilities, which was further divided into five groups with their own themes respectively including the following two groups: "Researches on the radiation influence on the development of both experimental and human leukemia"(Led by Susumu Watanabe), and "The basic and clinical researches of radiation hazards affecting on hematopoietic function"(Led by Kiku Nakao). Research on A-bomb diseases was continued mainly by these two groups until 1968. The main members of the Watanabe group included: Toshiyuki Kumatori (National Institute of Radiological Sciences), Tetsuro Shimamine (Tokyo Medical and Dental University), Shinji Takahashi (Nagoya University), Masanobu Tomonaga : (Nagasaki University), Kiku Nakao (Tokyo University), Haruto Uchino (Hiroshima University), Shigeru Matsuoka (Nagasaki University), Hisatoshi Miyata (Tokyo University), Gyoichi Wakisaka (Kyoto University), Michio Hashimoto (Kyushu University), Masashi Miyake (Tokyo University). The main members of the Nakao group (later succeeded by Wakisaka) included: Hideo Ueda (Tokyo University), Tadashi Miyagawa (Tokyo University), Kazuo Sanjo (Tokushima University), Masao Hanaoka (Kyoto University), Susumu Hibino (Nagoya University), Kiku Nakao (Tokyo University), Gyoichi Wakisaka (Kyoto University), and Susumu Watanabe (Hiroshima University). The reorganization of the Grant-in-Aid for Scientific Research program in 1969 substantially expanded the access to scientific research grants, promoting research projects in the forms of Cancer Research, Comprehensive Research (A, B), and General Research (A, B, C, D). Thus, the research on the late effects of the A-bomb became individualized and diversified up to today.

Meanwhile, the Ministry of Health and Welfare's promotion of research began with the establishment of the Council for the Investigation of A-bomb Diseases in November, 1953, with the significant contributions made by the doctors in Hiroshima to this movement. By 1952, there was an increasing awareness of the need for treatment of A-bomb survivors' disorders. Especially, the provision of treatment for the so-called

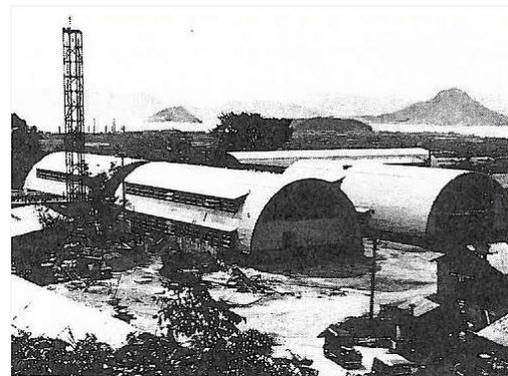
“Hiroshima Maidens” at Tokyo University led to a strong demand for treatment measures in Hiroshima. Under these circumstances, the Hiroshima City Atomic Bomb Survivors' Treatment Council (current HABC) was established in Hiroshima in January, 1953. The Hiroshima City Medical Association played the central role in its establishment, and Hiroshima Medical College, other public hospitals, local administrative agencies and private sectors also participated. Shinzo Hamai, the mayor of Hiroshima, became its President, and Dr. Yoshimasa Matsusaka, the then president of the Hiroshima Prefectural Medical Association served as Vice President. The objectives of the council were to provide A-bomb survivors with treatment and health guidance, and to promote administrative measures for the research and treatment of A-bomb diseases. As the council was launched on its activities, urgent need for the medical treatment of A-bomb survivors was being gradually recognized among experts. In response to this momentum, the Ministry of Health and Welfare established the “Council for the Investigation of A-bomb Diseases” in 1953. The council made out a draft and formulated guidelines for the treatment of A-bomb diseases, and held its second meeting and a symposium in February, 1954. The main participants in these events were the members of the “Japanese Atomic Bomb Disaster Investigation Group” mentioned previously. Then, following the Bikini case, in which Japanese fishermen were exposed to nuclear fallout from a U.S. hydrogen bomb test, the Ministry of Health and Welfare, in order to cope with the various radiation problems, dissolved the council established in the previous year to develop it into a new organization, the “Liaison Council for the Investigation on Measures against A-bomb Damage”, to promote comprehensive research and measures. This council consisted of five subcommittees: the General Administration committee, Medical committee, Environmental Health committee, Food Hygiene committee, and Hiroshima and Nagasaki committee. Hiroshima and Nagasaki committee led by the chairman Saburo Kojima was in charge of the investigation on A-bomb diseases. This committee mainly did administration work, and as many of the members were from the general research group funded by the Grants-in- Aid for Scientific Research by the Ministry of Education, their investigation was actually supported by the grants. Later on, with the enactment of the Act for Atomic Bomb Sufferers' Medical Care, the “Council on Medical Care for Atomic Bomb Exposed” was established and has operated since 1957.

The Ministry of Health and Welfare entrusted the investigation on A-bomb diseases to the Japan Public Health Association from 1968, to independently investigate the realities of A-bomb survivors. The three major themes and the members of the investigation teams were as follows: 1) Investigations on the health maintenance of A-bomb survivors (Mineo Watanabe, Kiyoshi Shimizu, Yoshimasa Matsusaka – Hiroshima,

Masanobu Tomonaga, Tsuguhiko Tokunaga, Issei Nishimori, Yasushi Mitani – Nagasaki, Toshiyuki Kumatori – National Institute of Radiological Sciences), 2) Investigation on the vital functions of A-bomb survivors (Naomasa Okamoto, Haruo Ezaki—Hiroshima), 3) Investigations on the malignant neoplasm in A-bomb survivors (Keisuke Misonoo — National Institute of Radiological Sciences, Toru Yamabe —Nagasaki). Since 1973, there have been four major themes as follows: 1) Investigations on the malignant neoplasms in A-bomb survivors (Toru Yamabe, Takayoshi Ikeda, Minoru Kurihara, Issei Nishimori, Tadashi Hashizume, Goro Ouchi), 2) Investigations on the vital functions of A-bomb survivors (Takeo Nomura, Nobuo Makino, Shunzo Okajima, Toshihiko Kumazawa, Atsushi Kuramoto, Masaki Munaka), 3) Investigations on the health maintenance methods of A-bomb survivors (Yasuo Yoshizawa, Naomasa Okamoto, Toshiyuki Kumatori), 4) Investigations on the health condition in the households of A-bomb survivors (Yoshimasa Matsusaka, Shigenobu Miyagi, Hisao Yamashita).

Some of the major research institutes of A-bomb diseases are as follows: the Atomic Bomb Casualty Commission (ABCC) established in 1947, which was reorganized later and became the Radiation Effects Research Foundation (RERF), the Research Institute for Nuclear Medicine and Biology (now, Research Institute for Radiation Biology and Medicine: RIRBM), Hiroshima University, established in 1961, and the Atomic Bomb Disease Institute, Nagasaki University School of Medicine (now, directly attached to Nagasaki University), established in 1962.

Shortly after the establishment of ABCC, the Japanese National Institute of Health (JNIH) of the Ministry of Health and Welfare joined the ABCC studies, conducting various research activities. In 1955, the Francis Committee conducted an intensive review of the objectives of ABCC and of its research program and made recommendations for so-called the “Unified Study Program,”



Completed ABCC (Hijiyama), December, 1950

that focused on integrated epidemiological follow-up studies of a fixed population defined by a “Master Sample.” On receiving these recommendations, Japanese experts and members of ABCC or JNIH considered the issue and decided on the following three main pillars of investigation in 1956: 1) Life Span Study, 2) Adult Health Study, 3) Pathology Study, 4) F₁ (children of atomic bomb survivors) Mortality Study. These studies were continued until ABCC completed its activities on March 31, 1975. In February, 1975, a team of seven scientists were selected from the National Academy of

Sciences (U.S.) to investigate and evaluate the achievements made so far under the integrated research plan implemented. Led by the leader Dr. James F. Crow, the group visited both Hiroshima and Nagasaki and gave some advice on future research activities. In response, RERF set the following five items as intensive research projects: 1) Life Span Study, 2) Adult Health Study, 3) Pathology Study, 4) Cytogenetic Study, 5) F₁ (children of atomic bomb survivors) Biochemical Genetics. Other than these, studies of dosimetry, tumor registration and tissue registration were also planned. There have been a great many achievements in these researches so far and it is impossible to mention them all. Especially, the epidemiological study based on a large-scale fixed population is unlike any other studies that have been carried out in the world, not only among the studies targeting at A-bomb survivors, but also among other studies such as adult health study for the control group of A-bomb survivors. Currently there are about 50 researchers in the organization and the number of research papers published from ABCC, or RERF by 1979 was 592, and 93 of them were published during the five years since the foundation of RERF.

The Research Institute for Radiation Biology and Medicine (RIRBM), Hiroshima University was founded in 1961 with the following four divisions: Basic research in disorders, Pathology & Oncology, Epidemiology & Social Medicine, and the First Clinical Medicine (internal medicine). In the next year (1962), the following four divisions were added: Hematology, Genetics & Eugenics, Chemotherapy & Biochemistry, and the Second Clinical Medicine (surgery), making it to eight divisions. Later on the institute established Biostatistics division in 1969, and Radiation Carcinogenesis division in 1971. Moreover, in 1974, the Scientific Data Center for the Atomic Bomb Disaster was also established for the management and utilization of the data of the atomic bomb disaster. RIRBM has conducted various studies including the experimental study on radiation influence, the study on radiation carcinogenesis mechanism, and the comprehensive medical study of proximally exposed survivors. Among those studies, the registration of 280,000 A-bomb survivors nationwide completed last fiscal year is especially valuable for the future epidemiological study. The number of academic researchers last year was 48, and the number of research papers published so far is 1843, and 812 of them were published during the last five years.

The Atomic Bomb Disease Institute of Nagasaki University School of Medicine has established its six departments by 1967 (Abnormal Metabolism, Radiation Biophysics, Pathophysiology, Congenital Abnormality, Preventive Medicine and A-bomb Disease Treatment). It has also established the Medical Data Center for the Atomic Bomb as an attached facility in 1974. The objectives of this institute are: Bioscientific clarification of

the mechanisms and process of radiation effects, and promotion of researches to respond to the urgent needs of A-bomb survivors as well as to prevent anticipated radiation hazards to the human body as a result of peaceful use of atomic power. (IGAKU NO AYUMI: Journal of Clinical and Experimental Medicine 99:583, 1976) The number of academic researchers is 23. Unfortunately, as research papers by the institute are not gathered, its research activities cannot be observed.

The “Research Society for the Late Effects of the Atomic Bombs” is a meeting for discussions on the late effects of the atomic bombs where the researchers get together from all the above-mentioned organizations by the Ministry of Education and the Ministry of Health and Welfare, or from both of Hiroshima and Nagasaki University and their major research institutes. This meeting plays important roles for the lateral communication among researchers in each organization, as well as for reflecting the research results in administrative policies. This meeting has originally been promoted as a part of the activities by HABC previously mentioned, in cooperation with the Prefecture and City of Hiroshima, and the history of its establishment and the affiliated organizations are very unique. Today the meeting takes places biennially in both Hiroshima and Nagasaki cities, and the participants include the staff of the Ministry of Health and Welfare, the city officials of Hiroshima and Nagasaki, members of medical associations, and the staff of the mentioned research institutes. Recently officials of A-bomb survivors' affairs division in each prefectural government also participate in the meeting. The meeting celebrated its 20th anniversary in 1979, and the overview of research report will be mentioned later.

3. Transition of research publications

(a) Publications of research papers

The number of research papers published annually is one of the factors to see the transition of researches on the late effects of the A-bombs. Figure 2. shows the numbers of research papers on A-bomb diseases published between 1945 and 1972, and it shows us some quite interesting facts. “×” indicates the numbers of papers published by Japanese researchers, while “○” indicates those by the U.S. counterparts. On September 19, 1945 the GHQ issued a Press Code for Japan, and all the research papers related to the atomic bombing had to be re-written in English and inspected before being published. Thus the Japanese research publication was strictly limited and was thought to be in an academically disadvantageous situation. There were 384 research papers published between 1945 and 1951, and 286, the majority of them, were by the U.S. side. Since the

autumn in 1951, however, with the conclusion of the Peace Treaty, Japanese research papers sharply increased in number and it has risen up to 279, approximately nine times more than the 32 U.S. papers. The restriction between 1945 and 1951 would have discouraged the motivation of Japanese researchers. What is more, thinking of such circumstances, it is likely that many valuable materials have been left forgotten since then up until today, which is quite unfortunate. Since 1962, the annual number of Japanese papers has varied approximately between 50 and 100, while that of U.S. Papers has remained around 20.

図2. 各年毎の原子爆弾障害研究に関する論文数

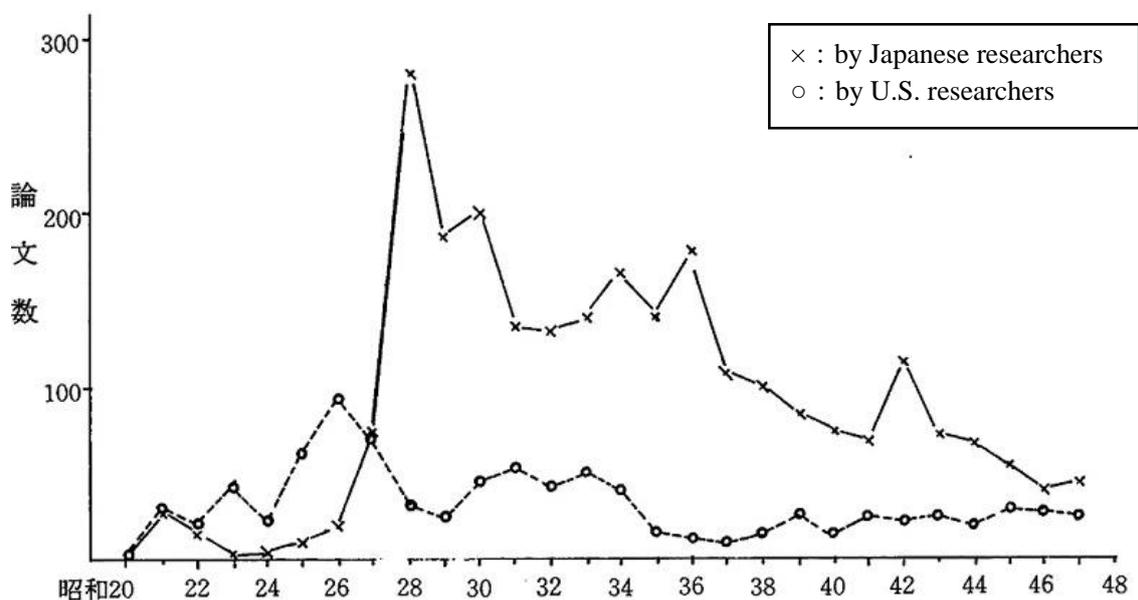


Figure 2. Annual number of research papers on A-bomb diseases.

Title of Y-axis: Number of research papers

Label of X-axis: (from left) 1945, 1947, 1949, 1951, 1953, 1955, 1957, 1959, 1961, 1963, 1965, 1967, 1969, 1971, 1973

(b) Academic conference presentations

The following is the consideration specifically about the content of presentations at the “Annual Meeting of Research Society for the Late Effects of the Atomic Bombs” during the 20 years between 1959 and 1979, as it is extremely difficult to grasp the correct total number of presentations on the late effects of the A-bombs made at various academic conferences without overlapping each other. Figure 3. shows the number of presentations made during the 20 years and its histogram. Each presentation was categorized by content field. Hematopoietic malignancy in the category of Malignant neoplasms was the most popular (73) for the theme of presentation, and Leukemia was especially popular among

them. The second most was the theme related with Hematology in the category of Internal medicine (70), followed by Health control (67), Statistical surveys (64), and then Pathology (60). All the detailed contents cannot be covered here. However, there are a few symposiums that are highly relevant. They are: “Twenty-year review of the late effects of the A-bombs” (1965), “Problems in authorization system of A-bomb disease” (1968), “How studies on late effects of A-bombs should be” (1968), “Irradiation and carcinogenesis” (1972), and “What welfare for A-bomb survivors should be” (1974). A lot of questions still remain unknown, however, regarding the late effects of atomic bomb radiation. Some of the examples are the issues of oncogenesis, genetic effects, or immunocompetence. In addition to these issues, there are many more challenges as well that we need to work on continuously in the future concerning the medical care and welfare for A-bomb survivors. Thus the Research Society for the Late Effects of the Atomic Bombs will continue to be a hub of research on the late effects of A-bombs, increasing its importance in the future.

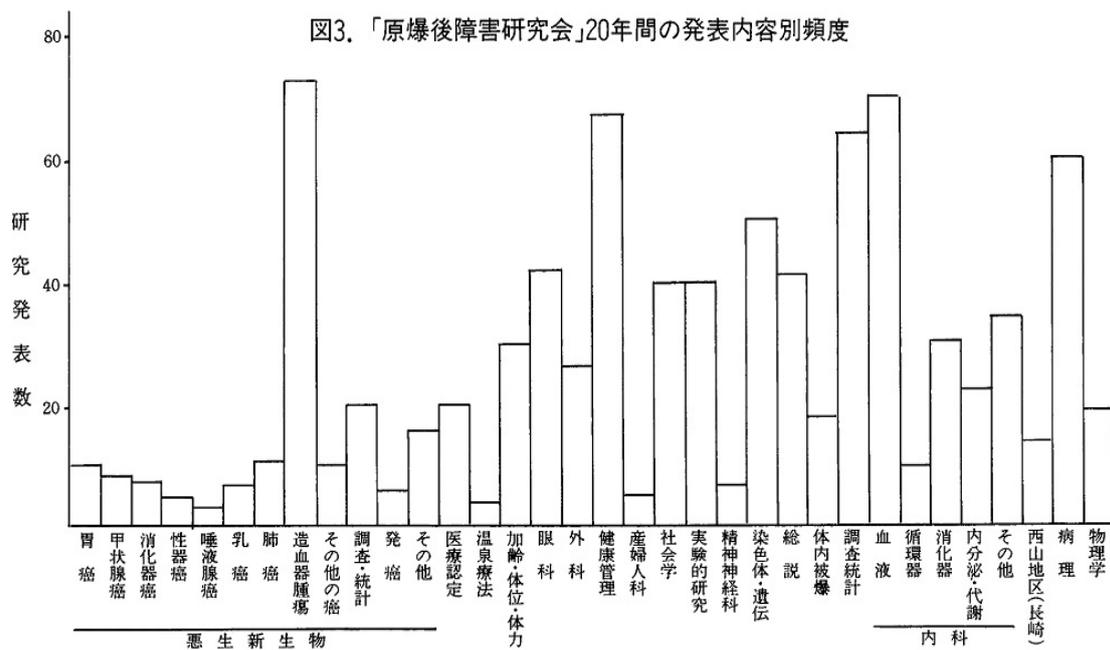


Figure 3. Content of presentations at the Late A-bomb Effects Research Society during 20 years.
 Title of Y-axis: Number of research presentations
 Label of X-axis: (from left) [Stomach cancer, Thyroid cancer, Digestive organ cancer, Genital cancer, Salivary gland cancer, Breast cancer, Lung cancer, Hematopoietic tumor, Other cancers, Inquiry and statistics, Carcinogenesis, Others] (above are Malignant neoplasms), Medical assessment, Spa therapy, Aging/posture/physical capacity, Ophthalmology, Surgery, Health control, Obstetrics and gynecology, Sociology, Experimental research, Neuropsychiatry, Chromosome/Genetics, Review, Internal exposure, statistical surveys, [Hematology, cardiovascular, digestive organ, endocrinology/metabolism, Others] (above are Internal medicine), Nishiyama area (Nagasaki), Pathology, Physics, Others.

4. Afterword

As it was the editor's desire that this section, with its title "Progress of research on the late effects of A-bombs," would not be too academically-oriented, I have focused on two topics: transition of research organizations, and transition of research publications. This section may seem like a superficial attempt because the details of the research results were not covered here. However, I would feel amply rewarded for my efforts if this section proved helpful to the members to recall their memories on the 35th anniversary of the atomic bombing.

Above all we must not forget about the long years of contributions made by the doctors of Hiroshima City Medical Association for the improvement of medical treatment, health maintenance, and welfare of A-bomb survivors that can be often seen in the history of the research on the late effects of the A-bombs. At the same time I was deeply touched by the tremendous contribution of Hiroshima City Medical Association to the local society.

Finally, I would like to express my sincere gratitude to the Atomic Bomb Center and its reference room, the Research Institute for Radiation Biology and Medicine and its reference room, and the RERF editorial office.

References:

Research Results Database & Archives of Grants-in-Aid for Scientific Research by Japan Society for the Promotion of Science (JSPS), 1957–1966; Report on the investigation of A-bomb diseases by Japan Public Health Association (JPHA), 1968–1978; Annual Report of the Research Institute for Nuclear Medicine and Biology (now, RIRBM), 1961–1979; Technical Reports of ABCC, or the Radiation Effects Research Foundation (RERF), 1959–1979; Overview of the A-bomb survivors relief measures project by the Atomic Bomb Survivors Affairs Division of Hiroshima City Department of Health, 1961-1979; Journal of Hiroshima Medical Association (Volume 14, 15, 27)
(August 1980 issue, "*Genbaku Tokushu*" (Special Feature on Atomic Bombing))

**[Discussion Meeting]
In Search of the Origin of
Research on the Late Effects
of the Atomic Bombs**



Tomin Harada
Gensaku Oho
Hiromi Nakayama
Nobumasa Kimura (Moderator)

Tomin Harada

Born in 1912. Was a military surgeon (age 33) at the time of the A-bombing. Opened a medical practice in Hirose Town in November 1946. Devised the keloid pedicle skin flap method for A-bomb survivors around 1948. Strove for the establishment of the Hiroshima Atomic Bomb Casualty Council and for the enactment of the Law for Atomic Bomb Sufferers' Medical Care. Thereafter, played active roles in many fields for A-bomb survivor relief activities and for world peace. Was appointed as the first Vice President of the Hiroshima City Medical Association in November 1947. Currently ex-President of, and an advisor to, the Hiroshima City Medical Association.

Gensaku Oho

(Profile provided in p191) Born in 1904. Opened a medical practice in Midori Town in 1939. Was a military physician (age 41). Re-opened his practice again in Midori Town in August, 1946, devoted himself to treat A-bomb survivors. Surveyed and reported the increase of cancer among survivors since around 1961. First board member, and ex-Vice President of the Hiroshima City Medical Association.

Hiromi Nakayama

Born in 1913. Was a military physician (age 34) at the time of the A-bombing. Opened a medical practice in Danbara Shinmachi Town in September 1946. Thereafter, devoted himself to the treatment of A-bomb survivors. In 1956, made a survey of A-bomb survivors in Danbara district by means of “Atomic Bomb Survivor Survey Sheets”, and issued “*Hibakusha* Health Booklets” to them. Served as a board member of the Hiroshima City Medical Association from 1950 to 1955.

Kimura: At present, the Medical Association is editing the “History of the Medical Association.” Today, I would like to hear various comments from you for the additional purpose of collecting data on this history. Definitely, the horror of A-bombs lies in the late effects. Today’s subject is “In Search of the Origin of Research on the late effects of the Atomic Bombs”. I would like to ask you to speak, on this subject, about what you have actually experienced as medical practitioners. Significantly large quantities of data that were prepared after the establishment of the Hiroshima Atomic Bomb Casualty Council are available. Some of these data are contained in the History of Treatment of Atomic Bombing Casualties. However, information pertaining to the seven years preceding 1952, when the Peace Treaty took effect, is hidden by a veil of secrecy, probably because of the presence of the Press Code (imposed by the General Headquarters of the Allied Powers). Medical doctors in Hiroshima assiduously carried out treatment during those seven years as well. I would like to learn from you the facts about this matter, and use that information as data to be transmitted to future generations.

Birth of the Medical Practitioners’ Society

Harada: Now, I would like to introduce these people. Dr. Oho is by far the most advanced in age. He was born in 1904. I was born in 1912. Dr. Nakayama was born in 1913. Dr. Oho, did you open a practice the earliest among the participants in this meeting?

Oho: I opened a postwar practice in August 1946, if I remember correctly.

Harada: I did so on November 1, 1946.

Nakayama: I opened one in September 1946.

Harada: I returned to Hiroshima in March 1946. At that time, the situation was such that I was unable to tell whether any medical association existed. There were hardly any doctors in the former urban area. In my case, I had a hospital built in November 1946 in a place called Hirose Town, which is located a bit close to the city center. True, I called it a hospital, but it was just a small shanty. In those days, Dr. [Yoshio] Ueki was about the only other practitioner who was near the city center. Another practitioner near the city center was Dr. [Ichiro] Todo, who was an ophthalmologist. Dr. [Jun] Makidono and Dr. Kaei Sawasaki were practicing medicine in the eastern part. In the southern part, Dr. Nakayama at Danbara, and Dr. Oho were in practice. Dr. [Muneyuki] Mizuno was practicing medicine in the western part. Three persons consisting of Dr. Sawasaki, Dr. Mizuno, and myself, agreed that there should be a medical association. Before opening a medical practice in 1946, whenever I heard a rumor of a practicing doctor, I visited him by bicycle. As a result, I located about 40 medical practitioners. Around December 1946,

as I remember, the Medical Practitioners' Society was founded. Dr. Minoru Nosaka was the president, and there were several board members. Then about one year later, Dr. Minoru Nosaka visited the Japan Medical Association in Tokyo and returned carrying a set of application documents. He suggested that a new medical association should be established in the form of an incorporated body on the basis of these documents. As a consequence, we often gathered at Dr. Nosaka's house, and prepared the articles of incorporation for the Hiroshima Prefectural Medical Association and those for the Hiroshima City Medical Association. As a result, the new Medical Associations were created in November, 1917. The then President of the Prefectural Medical Association was Dr. Ekizo Watanabe. He was in practice at Kusatsu. Rationed goods were sent to his office by the central authorities. These goods included *jikatabi* (split-toed heavy cloth shoes), purgatives, aspirin, occupation forces' surplus commodities, and so on. He said that those who wanted to have such goods should come to his office. Therefore, we went there and were given our share of them. Most of the board members of the Hiroshima City Medical Association died. Dr. [Kazuhisa] Kyogoku was the only survivor.

Medical care directly after the atomic bombing and in the subacute phase

One aspect of the origin of A-bomb survivors' medical care pertains to the medical treatment carried out directly after the atomic bombing and during the subacute phase, doesn't it? Did you perform that treatment, Dr. Oho?

Oho: No, because I was enlisted in the military.

Harada: Several doctors, including Dr. Kanichi Yoshida and Dr. [Yoshimasa] Matsusaka, carried out medical treatment despite their own A-bomb diseases, didn't they? Then research teams from universities such as Tokyo University, Kyoto University, and Kyushu University arrived to carry out the treatment of A-bomb injuries and grasp the realities of these injuries. Dr. [Masao] Tsuzuki was one of the members, but he was expelled under the Purge Directive (issued by order of the General Headquarters of the Allied Powers). However, he became the director of Tokyo Miyako Hospital (private hospital), and started research in collaboration with the ABCC (Atomic Bomb Casualty Commission). There were those three pillars. However the Kyoto University Team was devastated on the occasion of major flood damage in Hiroshima, and discontinued their research. Tokyo University-related personnel stayed on, and took their research data back to Tokyo. They prepared a huge number of reports by combining their data with those of other universities. Local doctors who carried out the largest amount of research were those of Teishin Hospital (a hospital affiliated with the Ministry of Communications). Dr. [Michihiko]

Hachiya played the main role, if I remember right. Other main members included Dr. [Gen] Katsube, who was the Head of the Surgery Department, and Dr. [Shigeru] Okamoto (now the director of Okamoto Hospital). Dr. [Chuta] Tamagawa of the Pathology Department of Hiroshima University was also one of them. Dr. Hachiya accumulated scientific data to a significant extent. He conducted autopsy, and also left a large quantity of blood inspection data. The occupation forces took away all of these data. Dr. Hachiya was very angry. Thereafter, the Press Code was imposed, resulting in the restriction of research. It seemed that due to this fact, research on the A-bomb disease was temporarily discontinued. We started our practice in those days. We were at a loss.

Malnutrition, anemia, erythremia, and leukemia

Kimura: Dr. Oho, what diseases were dominant when you started practice after World War II?

Oho: The first acute phase was over, and acute symptoms disappeared. As a result, only surgical keloid and lesions remained. In terms of internal medicine, no serious problems had yet arisen. It was known from the beginning that there were cases of anemia. Dr. [Takuso] Yamawaki (now a practitioner), who was at the Japan Red Cross Society Hospital, made it known in 1952 or 1953 that there were many cases of leukemia.



Harada: I diagnosed leukemia for the first time on December 23, 1948. In about 1952 or 1953, I prepared data for about 70 cases if I remember right. Leukemia is generally said to develop in one out of 100,000 persons, but it developed in seven to 10 out of 100,000 persons. In my hospital, larger numbers were recorded.

Nakayama: In the year with the highest record, the ratio was about 15 in 100,000 persons.

Oho: I also diagnosed leukemia in those days, but I didn't notice that ratios increased due to the A-bomb. There were also cases of agranulocytosis, aplastic anemia, and erythremia.

Harada: Oh, I was also shown erythremia, and I photographed a slide for that patient, didn't I?

Oho: Yes, but the results were taken away by a university in Nagoya. Thereafter, no erythremia developed. As regards this erythremia, newspapers reported that Dr. Tsuzuki, who came from Tokyo for a joint diagnosis, made a great discovery. In this connection, I had made arrangements for the patient. I had persuaded him to be subjected to the joint diagnosis. I had known of his erythremia. That was in 1952. Patients of erythremia or

aplastic anemia were miserable. That patient, age 22 or 23, who had been riding in an electric streetcar at the time of the A-bomb attack, eventually died. In those days, I did not have any intention to study erythremia. Therefore, I did not collect data. However, I have diagnosed about 10 cases. About 200 patients came to my office every day. So there was no time to conduct inspections. If I had done that, I would have found many more cases.

Nakayama: I came to make thorough diagnoses after I was told that there were many leukemia cases. In those days, it was not known that A-bomb survivors would develop internal diseases. Generally, there were many contagious diseases. Also there were very large numbers of cases of parasitic diseases.

Harada: Malnutrition was terrible. Also, there were many cases of chronic diarrhea. Surgically speaking, since there was chronic enteritis, ileus developed at the same time as malnutrition. Roundworms were amassed into a ball-like shape. The largest number of roundworms thus amassed was 130. These roundworms were bunched up into a lump, and caused ileus. I saw several such cases. When I operated on appendixes, I saw roundworms that had stuck their heads into the appendixes. There were innumerable dozens of cases where appendicitis was caused by such roundworms. Around 1947 and 1948, I first noticed that people who should not have died frequently passed away. When appendicitis operations were carried out, patients died on the third day although surgeries had been performed satisfactorily. This is because their resistance had been degraded. The causes were malnutrition and, after all, leukocytopenia due to radioactivity. Leukocytopenia lasted until about 1955. Leukocyte counts were 2,000 to 3,000. Leukocytosis is one of the features of appendicitis. However, leukocyte counts did not increase.

Nakayama: Actually, leukocyte counts increased, but these counts did not appear to have increased. This was because normal leukocyte counts were low.

Harada: At present, they would never die. In those days, such general debility, prostration, and resistance reduction continued to dominate.

Encounter with leukemia

On the night of December 23, 1948, I diagnosed leukemia for the first time. In those days, during suppertime, there was certain to be a period during which electric power failure occurred. During one of these periods, a patient came to my office. It was toward nine o'clock. I examined him by candlelight. He had a weird look. His eyes were deeply sunken. His arms and legs were as thin as flax stalks. Only his belly bulged out. Taking a

close look, I found that a lump of flesh about as large as his head protruded. Foul-smelling pus oozed out of a wound in that lump of flesh. His body temperature was as high as 40 degrees Celsius. I tried to run a blood test. However, his anemia was so severe that no blood came out. Taking a look by candlelight, I found that slightly colored water was coming out. That was his blood. I put it on a slide. When I looked at the slide the next morning, I found that large cells which appeared to be leukocytes were present here and there. There were almost no erythrocytes. I was astounded and took the slide to the ABCC, which was located at Ujina and which had just been founded. It took about 40 minutes by electric streetcar. The then director was Lieutenant Colonel Carl Tesman. He went into another room saying that he was going to have the slide looked at by a blood pathologist who had arrived. Soon afterward, Dr. Wedemeyer rushed to me, and asked me to take him to the patient. I asked him, "What is the matter?" He said, "This is leukemia." I first wondered what "leukemia" was. Of course, I came to guess that "leukemia" was the English equivalent of the Japanese "Hakketsubyo." When we read books on malignant anemia, such cells are not mentioned, are they? The number of leukocytes is too small. The count was only 3,000. Therefore, granting that it was leukemia, I thought that this leukemia was strange. However Wedemeyer said "This is aleukemic leukemia." I collected blood again during a house call. This was the first case. Incidentally, I came across Wedemeyer in the Medical Association Hall the year before last. He still remembered what had happened at that time, as the patient was the first one he examined.

My hospital (in Hirose Town) is located just one kilometer away from ground zero. The number of people who survived in this area was very small. Out of these people, I examined as many as seven persons affected by leukemia. This was the case although I am a surgeon. A child was introduced to me by Dr. Ueki, who was a physician. The child had been diagnosed with a spleen tumor. At that time I knew about leukemia. So I checked for this disease. Sure enough, the child was a leukemia patient. Not only the child but also adults including old women were patients of acute leukemia. There was only one case of chronic leukemia. I think this is because these people were only one kilometer away from the ground zero. Anyway, I found seven leukemia patients in three years (from 1948 to 1951). Normally, surgeons do not examine any leukemia patients throughout their lives. I gave most of the data and most of the huge quantity of blood samples to Dr. Yamawaki. The ABCC also asked me to give them some data and samples. In this regard, ABCC carried out autopsy on four cases, whereas the remaining three returned to home, failing to secure the time to perform autopsy.

Kimura: Dr. Nakayama, is your office located two kilometers away from the ground

zero?

Nakayama: Mine is located about 2.1 kilometers away. The number of leukemia patients is relatively small in this area. I started to examine leukemia patients after 1955. I have examined four or five such patients.

Kimura: How about yours, Dr. Oho?

Oho: My office is located about three kilometers away. In those days, I was as busy as hell. Therefore, as a matter of fact, I did not run any blood inspection. I examined about as many as 250 patients a day. I was helpless.

Doyokai (The Saturday Club)

Kimura: I presume that the Saturday Club was a continuation of the Medical Practitioners' Society. About when was the Saturday Club established?

Harada: That was in 1948. Dr. Masaoka called on me to tell me that he opened a practice. He said that there was no academic conference at all in those days, and that, he wanted to study about diseases in his field. This talk was the beginning of the Saturday Club. Since I was on friendly terms with Dr. Makidono, it was possible to gather doctors in various fields. I gathered the following doctors, since they were doctors zealous in academic pursuits: Dr. Oho; Dr. Nakayama; Dr. Mizuno; and Dr. [Genro]Tsuchiya, who was an ophthalmologist. Dr. [Hideo] Goto joined the society in the early stage only. Subsequently, the following members joined the society: Dr. [Kazuo] Takiguchi, who was an otorhinologist; Dr. [Ken] Takeuchi of the Japan Red Cross Society Hospital; Dr. [Shunji] Fujii, who was a surgeon, (Kamiya Town); and Dr. [Hiroshi] Takada. Dr. [Takashi] Nagasaki joined the society a little later.



A meeting of eight or nine members was held each month in the house of one of the members on a rotation basis. There were rules of the society consisting roughly of the following four provisions: No dinner should be offered; each member should be prepared to present information on some topic in his discipline; politics should not be touched upon; disputes or the like in the Medical Association should not be touched upon. These rules were, so to speak, an unwritten law. In this society, members were encouraged to study in earnest. Society meetings were continued for about 15 years, if I remember right. In the course of this activity, a stance for addressing A-bomb sufferers' medical care was

formed.

The following questions were raised: Is A-bomb disease patients' resistance low? Does anemia still remain in the patients? Are the patients susceptible to some diseases? Are the patients' lives shortened? In this respect, it was presumed that A-bomb disease patients might perhaps be susceptible to special diseases. Therefore, in 1950, I went to the Hiroshima City Office together with Dr. Oho, and had the following four boxes created in the upper right part of the Death Certificate: "Did this person experience the A-bombing?"; "Did this person not experience the A-bombing?"; "Did this person enter Hiroshima City directly after the A-bombing?"; "Did this person enter Hiroshima City sometime after the A-bombing?" The city authorities showed disapproval in the beginning. However, we asked them for cooperation. This arrangement triggered the following development: Starting around 1951, Dr. Oho suggested the possibility that the number of cancer patients would be large; he mentioned this in a meeting of the Saturday Club as well; he started investigation and research by himself.

Frequent occurrence of cancers

Oho: Well, I was a board member of the Hiroshima Prefectural Medical Association. Thus I conducted surveys by instructing university students to visit A-bomb survivors' homes. I had a rough idea that the number of cancer patients had increased little by little. When a conference of the ABCC, the Medical Associations, and the Nagasaki Atomic Bomb Casualty Council was held in Nagasaki in 1953, I made a presentation on this matter for the first time. In those days, the ratio of cancer patients was ordinarily about 100 in 100,000 persons. However, this ratio rose to about 140 in 100,000 persons, that is, an increase of about 40 percent. In this connection, there must have been a very large increase in terms of the real number. There was an increase of 40 percent compared to all cancer patients. There is no comparison with leukemia patients. Even at present, there are many cases where I guess that such and such persons are related to the A-bombing. When I made a presentation for the first time, everybody was surprised. Opponents argued, "That is not supposed to be the case. All those people are aging. Therefore, it is a matter of course that the number of cancer patients is increasing."

Harada: In the ABCC, there was a pathologist whose name was Lacour; he was an American of French extraction. In 1951, that is, before the above-mentioned Dr. Oho's presentation, I put the following question to Dr. Lacour in a discussion meeting at the ABCC: "Isn't the number of cancer patients large? Dr. Oho and others have raised this question. What do you think of this matter?" Then he answered, "That is never supposed

to be the case. That is not even worth laughing at.” However, in 1953, that is, about one year later, the ABCC started to carry out the investigation of cancers. This means that the ABCC began the investigation in haste because Dr. Oho made the presentation in Nagasaki. The ABCC collected regular statistics starting in 1955, and published the famous paper, “Development of Cancers as Observed in Atomic Bomb Survivors,” in *Nature* magazine in the United Kingdom in 1959. Dr. Oho started his research one year before this.

Oho: That’s right. At Saturday Club meetings, I asked the following question of all participants, “Is the number of cancer patients large?” Then the answers were, “Recently, the number is large.” I could not get overall information by myself alone.

Harada: Dr. Oho has spent several million yen on that research. He is conducting research at his own expense.

Kimura: How did you carry out epidemiological research?

Oho: First, cards for death certificates were prepared. Then I went to the City Office, and pulled out only the cards of those who experienced the A-bombing. I investigated the addresses and families, and instructed Hiroshima University students to visit individual houses. This was done many times in each month. Memories gradually fade away. It may have become impossible to locate family members. That is why investigation was started at once. In addition, I visited doctors in charge. Some of them didn’t take kindly to me, in that I was doing unwanted things. I gradually developed data in this way. Maybe there was a concept that if it is said that cancers develop in A-bomb survivors, people will be confused. My argument was not accepted. I have written many papers, but they are not contained in publications. Nobody agreed to carry any of my papers in any of his publications. In those days, my research was reported in a newspaper. Before then, the tax office categorized a medical practitioner’s research as a hobby. However, after the newspaper wrote that I was carrying out research, tax ceased to be imposed. This means that the tax office accepted my research.

Harada: Your papers were carried in the *Japan Medical Journal*, weren’t they?

Oho: I submitted papers, but they were not accepted. There are many people who request offprints. However, my name is not shown. The Journal editor wrote the contents in a way that appeared as if he made the discovery by himself. In 1956, I had already made a presentation saying that there were many lung cancer patients and many mammary cancer patients. In those days, gastric cancers were not yet soundly related to distances from the ground zero. Only the number of gastric cancer patients was not large in terms of average values. Therefore, it was impossible to say that the number of cancer patients was large depending on distances from the ground zero. Now this is accepted.

Hiroshima theory

Harada: As regards the speed of tissue cycles, the fastest cycles are those of bone marrows.

Oho: Cycles of bone marrows and leukemia are the fastest. Ranking next are those of lung cancers, mammary cancers, and thyroids. Cycles of gastric cancers and the digestive organ system rank lower than others.

Kimura: Whose theory mentions cycles of cells?

Oho: Nobody has made a presentation clearly mentioning that.

Kimura: Just now, Dr. Oho spoke in a very clear-cut way, didn't he?

Harada: With regard to this matter, we just started to say so. I think that skin cancers rank the lowest.

Kimura: Why do epidermis rank the lowest?

Harada: The younger the cells are which sensitively perceive radioactivity, the faster the cells are damaged. Also, the higher the cell division rate is, the faster the cells are damaged. Skins are very slow. There are many such items, including bone marrow, genital glands, endocrine glands, and thyroids. Gonads, mammary cancers, uterine cancers, ovarian cancers, etc. are also in this category. Objects entering the lungs are inhaled, and therefore, are caught, with the result that the objects remain as foreign matter. However, objects entering the stomach pass through the stomach, and therefore, do not remain. It was possible to naturally consider cell cycles. However, no presentation has been made on this. Right?

Oho: No, not yet. As a matter of fact, are there latent periods of cancers? Or are there no such periods? Well, it is said that there are.

Kimura: Dr. Nakayama, what do you think of that opinion?

Nakayama: My view is about the same.

Oho: Now, there is an issue of the residual radioactivity after the A-bomb was dropped. Nobody takes up this matter. However, radioactive rays were measured at that time. I made a survey just at the time a fire-fighting unit entered the city. About half the members developed acute diseases. They suffered from diarrhea and bleeding, and also developed splotches. However, this matter was not taken up either. As late as nowadays, some mention is being made.

Cataracts

Harada: In the field of ophthalmology, Dr. [Shigenori] Sugimoto started research at a

very early stage. He started practice some time after the end of World War II. Many people with eye injuries went to his office. In the course of treatment, he collected data from external eye injuries. Doctors of the ABCC visited his office to make investigations on cataracts. Probably due to getting a hint from this fact, both Dr. Ayao Koyama of the Teishin Hospital (hospital affiliated with the Ministry of Communications) and Dr. Sugimoto researched assiduously on cataracts. They conducted research on cataracts and distances from ground zero in cooperation with the ABCC. Data were prepared at a very early stage. I presume that by about 1950, the required information was obtained. It deserves special mention that Dr. Sugimoto continues to conduct this research even now.

Keloids

In the field of surgery, Dr. Katsube and Dr. Okamoto of the Hiroshima Teishin Hospital started to carry out skin grafting in 1946. Therefore, they are the originators of skin grafting. In those days, the level of plastic surgery was still low in Japan. The skin grafting method was primitive. The method was such that a patch of skin was taken from some site and was stuck to the affected area. In the case where half the patch stuck, the operation was considered satisfactory. In 1936, I started to perform skin grafting in a medical office of the University I graduated from. I was thinking that I would have to carry out skin grafting after returning to Hiroshima. However, even in 1946 and 1947, no patient came to my office. There were no such patients in Hiroshima. Around 1948, skin grafting patients began to trickle in. However, in those days, keloids were the predominant cases. Even a little touch resulted in a keloid. Even if the keloid was cut off and skin was grafted, a similar keloid developed. That sight was shocking to look at. I was very embarrassed. From the beginning of 1948 to the beginning of 1949, I tried a method called the pedicle skin flap method. I grafted a large live skin flap from the opposite leg. I did that by giving consideration to preventing keloid. Starting around 1951, recurrence of keloids decreased. Around 1955 and 1956, the recurrence of keloids reduced to such a degree that it was unnecessary to regard this occurrence as a big problem. That is, constitutions returned to the original conditions. Meanwhile, I made strenuous efforts for 10 years in the solution of the following three issues: prevention of the recurrence of keloids; prevention of the re-contraction of grafted portions; and furthermore, how to deal with the phenomenon that grafted skin turned black. I carried out preoperative radiation with the cooperation of Dr. Makidono. That is, keloids were exposed to X-rays before their removal. Then after carrying out skin grafting, only a little keloid would develop. This method led to very good results. Besides, the skin portion to which radiation was

applied, was removed. Therefore, no after-casualty occurred. This being so, I believe that I found a method of preventing keloids.

Toward the Act for Atomic Bomb Sufferers' Medical Care

In the meantime, the issue of the "Hiroshima Maidens" came up. Some Hiroshima Maidens received treatment at the Koishikawa Branch of the University of Tokyo Hospital. Others went to Osaka, and received medical care. These facts infuriated us Hiroshima surgeons. We stormed into the Mainichi Newspapers in a rage, saying, "We are doing that, too. We are not inferior to others. In spite of that, they do not come to us". There was a newspaperman Mr. Y, and he offered to cooperate with us in a campaign. In 1952, it was decided that free medical examinations would be conducted in cooperation with Mr. Yoshida, Director of the Social Affairs Section of the Hiroshima City Office. We formulated a specific clinical chart which contained a statement to the effect that medical examination would be conducted for free during the two months of July and August. As a result, 863 charts were returned to us from surgeons in Hiroshima City. This way, data on A-bomb diseases were developed although the quantity was small. That was in 1952, when the Peace Treaty had already been concluded. The Surgeons' Society members were stirred up, saying "The Press Code has been lifted. Let's do that." As a result, they declared that treatment would be performed for free. In November 1952, Mr. Hamai, Mayor of Hiroshima City, came to the Medical Association Hall, and it turned out that the Hiroshima Atomic Bomb Casualty Council would be established. Incidentally, Ms. Shizue Masugi made a remark regarding the medical treatment of the "Hiroshima Maidens." Being infuriated by her remark, the Hiroshima Surgeons' Society issued a declaration. Due to the above, the public opinion came to a pitch of excitement. An atmosphere in favor of A-bomb survivors' relief and medical treatment was created. In addition, there was the issue of the planned medical treatment of the "Hiroshima Maidens" in the United States. The public opinion came to a higher pitch of excitement inside and outside Japan. This fact led to the Act for Atomic Bomb Sufferers' Medical Care being enacted in 1957. During this period, we carried information materials to the Ministry of Welfare many times. This Act was created in such a way that Mr. Gishin Yamashita, a member of the House of Councilors, played the main role, and Mr. Hirokichi Nadao provided cooperation by transcending the differences in factions. This time, medical practitioners in Hiroshima figuratively burned like a fire. I believe that such an incident is unprecedented in history.

A-bomb disease and Hiroshima disease

Harada: It happened that all of us are busily engaged in medical care. Also, we are all disposed to be concerned about various things. When we perform public work as board members of the Medical Association, we are inevitably confronted by the issue of the positioning of A-bomb survivors' present situation and the issue of how to make analyses. The Saturday Club is a privately linked organization. In this society, the firsthand daily realities of patients were talked about. In these circumstances, it was concluded that a sickness called "A-bomb disease" does exist.

Oho: I named it the "Hiroshima disease." That was a vague designation.

Harada: Public hospitals, except the Teishin Hospital, were not active at all.

Oho: No, they weren't. They avoided this issue.

Harada: That's why everybody said, "If we don't do that, who will? The A-bomb disease has to be clarified in any way or another while carrying out our regular work."

The first item that was started was the investigation of cancers, wasn't it? Keloids were another such item in the field of surgery. In meetings, each member brought an issue, and received some suggestions there, with the result that he tirelessly conducted research by himself after returning to his office.

Nakayama: After all, it was mentioned in the first place that the number of leukemia patients was the largest among internal patients. Before this mention, Dr. Oho and other doctors said, after investigating death certificates, that the number of leukemia patients was presumed to be large. An official announcement was made around 1950 or 1951, wasn't it? This was the first case of A-bomb disease as an internal disease. I always examined patients from a perspective such that internal patients might perhaps be suffering not only from leukemia but also from something else. However, in those days, the number of patients was large, and the number of doctors was small. I was too busy to have patients inspected. It was as if I examined patients by intuition alone. There was malnutrition in addition to anemia, wasn't there?

Oho: That's why I named it "Hiroshima disease." Whole body lethargy, which is in short "idling disease"; proneness to fainting; dizziness; failure to get up in the morning; and loss of sexual appetite.

Harada: Running out of energy.

Kimura: Was it around 1950 that such symptoms were most frequent?

Oho: Yes, that was around that time. However, the authorities did not accept these facts. They said, "That is not supposed to be the case."

Nakayama: In those days, there was food shortage nationwide. Anyway, the living

environment was inferior. Everything was attributed to that, wasn't it?

Kimura: Which gender accounted for the higher percentage of “Hiroshima disease” patients, male or female?

Oho: The percentages were the same. However, men worked outside. Work such as treatment of corpses, disposal of rubble, etc. was all done by men.

Kimura: In terms of ages?

Oho: Children, and men age 30 or over, who completed military service. In this respect, children don't have the ability to express themselves about symptoms. In retrospect, the facts laid the foundation for cancers.

Kimura: Is it the case that many people with such symptoms were present within one kilometer of ground zero?

Harada: No, no people were present in the beginning. However, people gradually returned from the suburbs. So there are a considerably large number of persons who are alive. Ninety percent of A-bomb victims caught in the open died. I think that the percentage of the people who survived indoors or behind houses is about 15 percent in all. According to the statistics of Dr. Tsuzuki, more than 90 percent died. However, if account is taken of people who actually returned from rural districts, I presume that about 15 percent survived. At that time, it was reported that the number of people who survived within one kilometer of ground zero was 35,000. Among these people, the occurrence rate of leukemia patients was more than one hundred times as high as the ordinary occurrence rate. This was the case in a certain period. Therefore, people who survived in an area within 500 meters to one kilometer of ground zero rapidly died. In a conversation with Dr. Malony of the ABCC, I was surprised to learn that according to the population statistics, the population within one kilometer of ground zero became about 400 in FY 1950 – FY 1951. Even now I remember this fact.

Joint medical examination arranged by the Hiroshima Atomic Bomb Casualty Council

Kimura: Dr. Nakayama, when the Hiroshima Atomic Bomb Casualty Council was established, you served as a board member, didn't you?

Harada: Dr. Nakayama earnestly made arrangements for the joint medical examination.

Nakayama: I was just a force behind the scenes. At that time, anemia and leukemia were primarily dealt with in internal medicine. The council started medical examination by surgeons first, but they also started internal medicine by the request of A-bomb survivors later on. Both Dr. Oho and I played the main role in internal medicine.

Harada: Surgeons examinations started in January 1953. The first examination was conducted in the City Hospital. In the beginning, only surgeons conducted the examination. Then physicians started internal medicine and gradually the latter outgrew the former.

Kimura: The Hiroshima Atomic Bomb Casualty Council was established on January 13, 1953, wasn't it?

Nakayama: On November 21, 1953, the first medical examination for internal medicine was conducted in the Medical Association Hall, and monthly periodic examination started from January 27, 1954.

Kimura: Before that surgical treatment was mixed in, wasn't it?

Harada: Yes. And at that time, it was also requested that doctors from all departments participate. I recall Doctors Oho and Nakayama of internal medicine, doctors from the Hiroshima Prefectural Hospital, Gynecologists, and Ophthalmologists... In the year before that, we requested those who had suffered burns to notify us accordingly. We even sent notices to the victims asking them to come for medical treatment. Those 863-864 victims who responded were all suffering from surgical conditions.

Kimura: What was the atmosphere of the joint medical examination like?

Oho: We borrowed rooms from public hospitals.

Nakayama: On November 21, 1953, the joint examination started. Surgery, internal medicine and ophthalmology. About five committee members discussed on the inspection data, and certified that patients were affected by A-bomb disease. Subsequently, medical treatment was performed.

Kimura: When A-bomb disease patients were certified, were medical care costs subsidized or otherwise compensated for?

Harada: In the first one year and several months, medical care was provided for free. In the course of our activities, an organization "Council for the Investigation of A-bomb Diseases" was created in the Ministry of Welfare. This organization granted a total of merely one million yen to the ABCC Hiroshima and the ABCC Nagasaki combined. This amount was divided in such a way that 600,000 yen was given to the ABCC Hiroshima, and the remaining 400,000 yen was received by the ABCC Nagasaki. In the same year, NHK (Japan Broadcasting Corporation) carried out a year-end charity campaign, with the result that the NHK gave us about 3 or 4 million yen. Up to that time the Hiroshima City Office had given us only about 200,000 yen. Persons of Japanese ancestry in Hawaii sent us 200,000 yen as a relief fund. The above amounts were far from sufficient. We have been providing medical care since February 1953.



During this period a significant number of operations were carried out. In my case alone, I performed 50 to 60 cases of hospitalized operations. Therefore, I think that I provided medical treatment worth about one million and several hundreds of thousands of yen per year. However, free treatment is really worth doing. I felt comfortable about that. Incidentally after the lapse of 15 months, I was given some amount of money.

Kimura: What kinds of diseases were certified?

Oho: There was no cancer at that time. Therefore, in the case of internal medicine, leukemia and anemia were the diseases that were certified.

Nakayama: As for me, I only handled blood diseases. So anemia was the only relevant disease.

Oho: Patients with an erythrocyte count of 3 million or less and a leukocyte count of 4,000 or less were selected. Conditions were attached to ensure that needy persons should not be caused to bear cost, and that ordinary persons should be caused to bear 5 to 10% of the cost. These conditions were approved by the Hiroshima Atomic Bomb Casualty Council.

Kimura: After certification was obtained, were patients allowed to be examined by showing cards?

Nakayama: When providing treatment, I looked at cards, and examined patients for free. Starting about one year later, patients received some amount of money.

Kimura: Is it the case that the arrangement where patients received some money is a result of the campaign that you doctors conducted?

Harada: Now I remember NHK running a fund-raising campaign. The Mainichi Newspapers, among the print media, was particularly committed, and ran a campaign that covered the whole country. The Mainichi Newspapers was actually more devoted to the cause than the Chugoku Shimbun (newspaper). This even made NHK raise more money.

Nakayama: In this regard, Dr. [Yoshimasa] Matsusaka was in charge of communications with the central authorities. He wrote articles for the mass media, didn't he?

Harada: In this connection, the Act for Atomic Bomb Sufferers' Medical Care was enacted in 1957. I was greatly touched at that time. It took five years to have this law made. I hailed when the law was enacted. Mr. Gishin Yamashita is a person who should not be forgotten. He is still alive, residing inconspicuously in Otemachi Town.

And now

Kimura: Do you perceive diseases peculiar to A-bomb survivors now, when 30 years have passed since the A-bombing?

Oho: Yes, I perceive them in my daily medical examination. Nowadays I ask each patient, “Where were you when the A-bomb was dropped? There is already a suspicion of a cancer. I think so at once. So I ask this question.

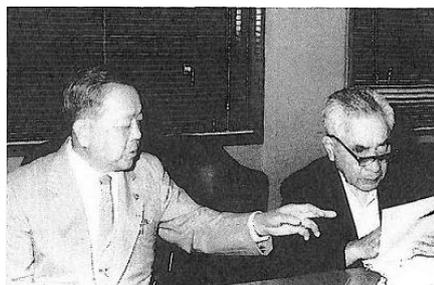
Harada: In 1956, the ABCC started to take the statistics of cancers, and published the results in *Nature* magazine in 1959. Subsequently, in 1960, statistics were released to the effect that the occurrence rate of leukemia was 12 times as high; the occurrence rate of lung cancer, that of mammary cancer, that of thyroid cancer, and that of salivary gland cancer were each 4 times as high; and the occurrence rates of other cancers were each twice as high. Dr. [Yasuhiro] Ishida of the Epidemiology Department of the ABCC conducted this analysis. Since he released these statistics, he incurred the anger of the Atomic Energy Commission of the United States, with the result that he was transferred to India. He was blamed for having been too outspoken. However, these statistics evoked a very massive response. By this time, secondary investigation had already been started, and analysis had been conducted. After all, it is impossible to successfully conceal facts.

Oho: It is a mistake to combine politics and scholarship.

Nakayama: In the past, there was a time when A-bomb survivors and second-generation A-bomb survivors concealed the fact of their experience of exposure to the A-bomb radiation, on the grounds that this fact might constitute an obstacle to marriage. Therefore, when medical care was started in medical examination meetings, people did not gather. On the other hand, there were neurotic people who attributed any sickness to A-bomb disease. That is, there were two extremes in terms of the types of patients. Even nowadays, there are people who firmly believe that a sickness other than A-bomb disease is A-bomb disease, on the grounds that they experienced the A-bombing. Even if I explain that a specific sickness has nothing to do with A-bomb disease, these people are not prone to be persuaded. So I am troubled.

Kimura: At present, mental symptoms are dominant, aren't they?

Harada: Yes they are. In short, probably due to an obsessive idea, anything is attributed to the A-bombing. This is the case with most of the A-bomb survivors residing in the United States. The A-bomb survivors residing in Los Angeles are alienated from Japan. They are alienated from America, too. Moreover, there is the issue of speech complex. In addition, there are many people who went there as wives. That is, there are large numbers of women who cannot drive cars, and are not economically well-off. the standard of living is not commendable. So there is a strong feeling of alienation.



Kimura: Are there any opinions on future research on the late effects of the atomic bombs?

Oho: My days are numbered. So I am inclined to donate valuable manuscripts etc. after my death. This is because the most important data are A-bomb survivors' basic population. Nowadays, some papers say that there are many cancer patients among 70-year-old people. This means that 70-year-old survivors account for the highest percentage among all survivors. Therefore, the number of persons who develop cancer is also large. The number of people age 40 or so is only half that of 70-year-old people. Therefore, the percentage of people age 40 or so who develop cancer increases to a higher level. There are papers in which these matters are stated in the same way.

Harada: I think there are differences in the quality between present-day research and past research. In the past, there was a sense of a mission, such that it was imperative to carry out a certain thing although there was neither money nor anything else. Nowadays, there are hospitals for A-bomb survivors, and there are research institutions. The researchers' role is just to conduct research. In the past, we examined 200 outpatients like ones possessed, and thereafter, compiled statistics by considering the above. At present, there aren't such persons, are there?

Nakayama: Present-day researchers may have money, but there is no research in which close contact is made with A-bomb survivors. Research is merely conducted in a very detailed way on an academic basis, isn't it?

Kimura: Recently, in the United States, a nuclear reactor came close to exploding. In this connection, the researches made by you, doctors in Hiroshima, will serve as important materials for the future.

Oho: If this matter really serves as reference information for all concerned, I believe that no A-bombs will be manufactured. This is because danger will eventually befall the manufacturers themselves.

Kimura: Thank you very much for your valuable testimony.

(August 1979 issue, "*Genbaku Tokushu* (Special Edition on Atomic Bombing) ")

Chapter 3: Medical care and medical examination of A-bomb survivors residing in South Korea and the United States

The majority of foreigners who experienced the A-bombing in Hiroshima or Nagasaki were Koreans. They were transported to Japan for forced labor for the following reasons: There were Koreans who had lost their livelihood foundations, for example, by being robbed of their land due to the colonization policy implemented by Japan after the Japanese Annexation of Korea that occurred in 1910; in conjunction with the strengthening of the war footing, there arose a need to compensate for workforce shortage. It is difficult to grasp the realities of the above. According to “A-bomb disasters in Hiroshima and Nagasaki,” the following estimation is made: there were about 2 million Korean people in Japan; among them, nearly 50,000 persons experienced the A-bombing in Hiroshima; about 20,000 of them died, and most of the survivors returned to Korea.

The Korean A-bomb survivors who remained in Japan were put in doubly difficult situations, in that not only did they suffer agony as A-bomb survivors but also they were subjected to racial discrimination. The A-bomb survivors who returned to Korea were subjected to a combination of health impairment and life hardship, with the result that they were compelled to lead lives filled with sufferings. Besides, these returnees were a kind of minority. Partly because of this reason, they were left unattended, resulting in becoming forgotten entities.

Under these circumstances, the Korean A-Bomb Victim Supporting Corporation (later renamed the Korean Hibakusha Association) was established in 1967. In this connection, a movement took place in which requests for the following matters, among others, were made to the governments of Japan and South Korea: construction of a hospital specializing in A-bomb diseases, promotion of medical care and livelihood support, and compensation for A-bomb casualties. In 1968, the issue of Korean A-bomb survivors came to the fore, in that, for example, South Korean women smuggled themselves into Japan with the aim of receiving medical treatment for A-bomb diseases. In these circumstances, it was recognized that there was a pressing need to carry out relief activities for South Korean A-bomb survivors. As a result, the Japan and the Republic of Korea Council for Relief of South Korean A-Bomb Survivors was founded, with the Hiroshima Prefectural Residents’ Council for Prohibition of Nuclear Weapons playing the main role. Then medical treatment in Japan of South Korean A-bomb survivors was started. In addition, the Medical Team for the Medical Care of A-Bomb Survivors was sent to South Korea starting in 1971.

The First Medical Team for the Medical Care of South Korean A-Bomb Survivors,

which consisted of four members with Torataro Kawamura as the leader, left Japan on September 20, 1971. Subsequently this team carried out medical care in Seoul, Pusan, and Hapcheon, and returned to Japan on October 10. As a result, it was recognized that a permanent medical facility for A-bomb survivors was necessary. As a result, the Hapcheon Clinic for A-Bomb Survivors was constructed in Hapcheon County in South Gyeongsang Province in December 1973. It is said that a large number of A-bomb survivors in South Korea live in this county, because there are many immigrants to Hiroshima.

After this, the medical treatment of South Korean A-bomb survivors underwent great development. The sending of the Medical Team triggered this development, and is regarded as indispensable for the medical care of South Korean A-bomb survivors. Therefore the practice of sending this team has been continued ever since. Furthermore, an arrangement where, with the consent of the Japanese government and the South Korean government, A-bomb survivors residing in South Korea visit Japan for medical treatment purposes, was realized starting in November 1980.

Medical care of A-bomb survivors residing in the United States was started in 1977, which was six years after the medical treatment of A-bomb survivors residing in South Korea was started. Before World War II, Hiroshima Prefecture was the top emigration prefecture, and sent large numbers of emigrants to countries including Brazil, Canada, China, and the United States. Particularly, a large number of Hiroshima Prefectural residents emigrated to the United States. It is said that as of the end of 1938, 26,917 and 23,032 Hiroshima emigrants resided in Hawaii and the US mainland, respectively. Many of these ethnic Japanese people wanted to educate their children in Japan. It is said that as of 1935, about 20,000 Americans of Japanese descent lived in Japan for purposes of education etc. It is estimated that about 3,200 out of the above-mentioned approximately 20,000 Japanese Americans lived in Hiroshima City. On August 6, 1945, the United States Armed Forces dropped the first atomic bomb in the history of mankind on Hiroshima without giving consideration to the possibility that these American citizens would suffer from the attack.

After the end of World War II, Japanese American A-bomb survivors returned one after another to the United State, where their parents waited for them. Also, there were Japanese female A-bomb survivors who married American servicemen who had come to Japan as members of the occupation forces. There were scenes of these female A-bomb survivors going to the United States. It is said that the number of A-bomb survivors who thus went to the United States amounted to about 1,000, with California as the main destination.

On October 13, 1971, Japanese American A-bomb Survivors launched the American Atomic Bomb Survivors' Association. Then they not only started a movement toward the passing of a bill titled "Relief of Atomic Bomb Survivors", but also deployed a movement aimed at the realization of medical examination by Japanese doctors with deep experience in the medical care of A-bomb survivors. The Hiroshima Prefectural Medical Association and the Radiation Effects Research Foundation heard of the above, and decided to jointly carry out the medical examination of A-bomb survivors residing in the United States. In 1977, the first medical examination of A-bomb survivors residing in the United States was realized. The first medical team for the medical examination of A-bomb survivors residing in the United States was organized so as to be led by Dr. Taiji Okada, board member of the Hiroshima Prefectural Medical Association. This team left Japan on March 29, and carried out medical examination of A-bomb survivors in such a way that the total number of cases amounted to 106. The itinerary was as follows: Examination was conducted in Los Angeles from March 29 to April 8; examination was carried out in the San Francisco Harbor Area from April 9 to April 15. This team returned to Japan after making a stopover in Hawaii. As a result, it became known that A-bomb survivors in the United States led uneasy lives under the following circumstances: They were scared not only of expensive medical costs and language barriers, but also of the late effects of the A-bombing; their suffering could not be understood by other people. By taking account of these circumstances, it was decided that the Project for Conducting Medical Examination of A-Bomb Survivors Residing in the United States would be implemented every other year thereafter. The particulars of this project were gradually enriched. The 6th medical examination was carried out from June 16, 1985 to July 16 of the same year. Five doctors and 1 investigator were dispatched in the case of this examination tour. A total of 379 cases of examination were carried out in San Francisco, Los Angeles, Seattle, and Hawaii.