"NEW HIBAKUSHA" - the beginning of "Degradation in Abilities", physical and mental well-being

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The explosion of the Fukushima-Daiichi nuclear power plant has not only effected Fukushima but most of eastern Japan. Both the land and the people of these areas have been widely irradiated.

When I worked at my own clinic in Tokyo, I found some odd changes and patterns in a large number of my patients' conditions after the Fukushima explosion. I have seen approximately 4,000 patients from in and around Tokyo.

<u>2011 to 2016</u>

Patients that usually visit my clinic either know about my specific profession or they are very aware of the radiation problem and are concerned of exposure. So there have not been any severe cases. But I have seen symptoms like unusual nose bleeds, bruises, swollen lymph nodes, diarrhea, and increasing number of respiratory diseases such as sinusitis or asthma, taking longer to heal from injuries, i.e. wounds or dermatitis.

Some adults get hand-foot-mouth disease or herpangina which is common in children. And some children develop shingles which is mostly common in older people, and there is also a drastic increasing number of syphilis which is clearly seen from the statistics. And these changes should be noted.

Based on legally-defined items of medical examination on people working with ionizing radiation I have blood tested over 4000 patients from infants to seniors accordingly.

As a result, the decreasing number of white blood cells were extremely common in children, especially with infants; in the hot-spot area such as east side of Tokyo from 2011 to 2012. But later it has spread to the west area of Tokyo, such as Musashino area, then taking over the whole of Tokyo.

Thyroid cancer within the people in Fukushima is being talked about in public. However, it is not enough at all. It requires further analysis and discussion about the other issues.

The main issues for discussion are as follows:

- the wide and increasing variety of symptoms
- decrease in numbers of white blood cells
- changes in the balance of ratios within white blood cells the changes of the profile of infection
- changes in progress of diseases,
- Hard to make a diagnosis and the treatment isn't working well etc.

From my observation, people in and around Tokyo show symptoms that are more obvious and a lot more severe than the less irradiated area of Fukushima area or north of Kanto (eastern Japan).

"NEW HIBAKUSHA"

The impact of radiation differentiates from person to person. However, every single person living in the East of Japan should acknowledge themselves as a "NEW HIBAKUSHA".

Those exposed to radiation from the Fukushima nuclear power plant explosion in 2011, should recognise themselves as "NEW HIBAKUSHA" of the 21st century. The term HIBAKUSHA quite literally means "radiated person". And it derives from past cases like the people of: Hiroshima, Nagasaki, Bikini Atoll, Chernobyl, Gulf war, and military and nuclear industries. What differentiates "NEW HIBAKUSHA" from the former HIBAKUSHA, is the on-going low levels of long-term exposure.

As of 2017, the accident of the Fukushima power plant is still an ongoing disaster. Today, radiation is detected from the air, ocean and our water supply in and around Tokyo (according to the Nuclear Regulation Authority).

Those who practice medicine must be aware that past practices may not be able to prove or directly correlate to recent and any up-and-coming health problems "NEW HIBAKUSHA" face. We must refer to the former research of Chernobyl and other examples in the past, but also keep in mind that we will have unexpected health problems that are still yet unknown.

"Degradation in Abilities"

Symptoms of NEW HIBAKUSHA became severe from 2016. These symptoms include:

- Struggling to remember key things
 - unable to work without taking notes
 - mistaking important dates and times (eg. appointments)
- Fatigue
 - unable to catch up with people
 - unable to work long hours
 - unable to work hard
 - feeling dull
 - unable to move for 3-4 days when worn out
 - unable to do tasks which used to be easy
 - easily irritated
 - getting a fever if they don't get enough sleep(children)
- Unable to concentrate and struggle to provide judgement and understanding
 - difficulty in understanding conversations and often mis-communicating
 - making repetitive mistakes

- not feeling like reading the newspaper or books
- disorganised
- carelessness
- decline in academic standards
- unable to finish homework
- overall sense of fogginess
- Uncontrollable sleepiness
 - falling asleep as if they're passing out
 - long naps
 - drowsy driving
 - unable to complete work due to drowsiness

Similar symptoms were seen in Hiroshima and Nagasaki HIBAKUSHA. Dr Masao Tsuzuki (Honorary Professor of University of Tokyo)named it, "The after effect of chronic atomic bomb disease",and Dr. Shuntaro Hida named it "Atomic Bura-Bura disease"

These symptoms have been suffered by HIBAKUSHA of Bikini Atoll, Chernobyl and the atomic industry. And I would like to name this phenomenon as "Degradation of Abilities" of "new HIBAKUSHA".

Also as a physician who examines these patients, I have experienced cases which are hard to diagnose because of the unexpected progress and duration of the disease; these are easy to misjudge because of the unfamiliar physical condition (for example inflammation) or lack of abnormal data which shows slow or little through treatment.

Some abnormal patterns seen:

- Weak and defenseless towards germs or virus
 - easily getting sick
- Weak/delayed immune system
 - White blood cells don't show increase as expected, or
 - WBC increasing slowly so that it takes time for the treatment to show effect.
 - If the reaction of human body is not fast enough, it is possible the infection gets worse and end up to sepsis.
- Inability to heal wounds
 - Phlegmon
 - intractable wound or dermatitis

I can't help but fear the course of progression in the amount of "Degradation in Abilities" after 3-4 years of the explosion.

CAUSE of "Degradation in Abilities "

These symptoms often seem to recover after moving away from the East of Japan, even if this move is temporary. Many "New HIBAKUSHA" experience symptoms that get worse when they went back to Eastern Japan.

The cause of "Degradation in Abilities" can not to be proven. However, the symptoms are too similar to former HIBAKUSHA's that it is hard to ignore the high possibilities of exposure to radiation being the main cause.

In addition, some of the symptoms are similar to those of chemical hypersensitivity, "Degradation in Abilities" is a type of chemical hypersensitivity. So, it is maybe possible to say that the chemical sensitivity might have changed by radiation exposure and developed chemical hypersensitivity.

On the other hand, some of the cases received of MRI scans of the brain don't show significant abnormalities in central nervous systems; cognitive function also seems normal. The thyroid hormones are always the main topic but they seem normal with no significant differences when compared to a healthy person.

I have measured hormone levels of the pituitary-adrenal axis of 100 patients suffering from "Degradation in Abilities". Patients who are not well but manage to live with discomfort show levels from within the lower of the average range to the lower levels of the hormone. Whereas people with good health, mostly show medium levels of the average range.

It is certain that this relative hypofunction of the pituitary-adrenal axis is the primary cause when examining the "Degradation in Abilities". They have recovered by adding the treatment as stated below.

Treatment of " Degradation in Abilities"

These symptoms of HIBAKUSHA of Hiroshima and Nagasaki were not diagnosed and therefore no treatment was administered. According to Dr. Tsuzuki "there is no other way to treat them just like a container with a crack " and his advice was to "avoid over-doing in life".

In this case with my patients after Fukushima, I advised them to avoid over exhaustion, to get enough rest and go to bed early; which showed a positive effect in the earlier years. Unfortunately, from 2016 (after 5 years of exposure), numbers of these cases increased drastically and symptoms have become more severe – some of them are physically unable to get up to go to school/work.

Decreased levels of cortisol in the adrenal cortex can be controlled by taking the hormone orally; increasing it back to a normal level. Starting the treatment, 70 to 80% of the patients were able to recover.

These improvements include:

- recovery from drowsiness
- Feeling like the fog is clearing up
- able to work as they used to do
- looking brighter and cheerful like they used to
- Feeling like brain function is better from 30% to 80%
- ability to finish homework easily

- not irritated
- able to drive with confidence
- clearer eyesight

The symptom is improved by carefully selecting the correct amount of the hormone for prescription. Some patients degenerate after stopping intake or decreasing the dose. I continue to treat them by adjusting the dose of medicine with each case to avoid side effects.

There are lots of patients who also suffer from disorder of autonomic nerve symptoms who are not clearly differentiated with "Degradation in Abilities", and I experienced that to avoid chemical substance is effective. In addition, some Chinese herbal medicine is effective for some cases with lower levels of cortisol.

Message To the "NEW HIBAKUSHA"

I hope that people who lived or are living in East Japan recognize themselves as "NEW HIBAKUSHA" and realise the physical changes of their condition and illness.

It is easy to simply blame the symptoms on aging. Ask yourself if you have similar symptoms. Furthermore, in Chernobyl it is said that HIBAKU (meaning exposure to radiation), is the same as aging due to the similar deteriorating effects.

What I'm concerned with the most is the human body's decreased ability to react to the infection (ie. no increase in white blood-cells). Even if your lab results appear normal and your doctor says you're all clear, I encourage you to repeat discussions surrounding your symptoms with them persistently.

With the "Degradation in Abilities", the body's defense mechanism may be weak even if the lab results doesn't show any abnormalities. There may be a possibility that the patient's condition is substantially severe.

To Those Working in Medicine, Especially Doctors in Clinical Practice

If you have some cases which the data and symptoms are significantly divergent and you are unable to make a diagnosis or experience that treatment isn't working well – there may be the possibility of "Degradation in Abilities".

The decrease (rather than an increase) in numbers of white blood cells may show the severity of the patient's condition.

Many of them have a lower level of cortisol, and supplying this may be effective. The method of treatment should be rearranged and readjusted if the natural healing ability seems to weaken.

Also, I highly recommend a related paper to this topic from Ukraine edited by Dr. Imanaka from University of Kyoto who states the remaining years after stomach and lung cancer changes from 50 months to 2 months, 10 years after the Chernobyl disaster.

About "NEW HIBAKUSHA" again

For the last 2-3 years, there were many cases of symptoms of extreme drowsiness and sleepiness. There were those who were more prone to getting sick, faced rapid aging and strong memory loss within the people even in Western Japan. Furthermore, there was an American tourist who told me about these symptoms in children located in the United States.

The likeliness of increase in chemical and electromagnetic hypersensitivity can not be ignored. Low grade exposure of radiation is not only a Japanese condition but a global problem. I have the impression that people who are physically weak, people who are handicapped or suffer from incurable disease were influenced after the 2011 tragedy.

Also some visible symptoms which we need to be careful about are increasing numbers of immunodeficiency. Other signs include allergies worsening and anaphylaxis.

To Conclude

Dr Masao Tsuzuki wrote at the end of his paper "Chronic atomic bomb disease (1954)". For those who are in profession of clinical medicine, if you find some abnormal symptoms even if it is subjective suffering or an objective symptom, these symptoms should be treated. Even if it is not solved as a medical study, I would avoid just simply letting it pass by. Those doctors who work extremely closely to the patients, those who suffer together through their illness, those that aid them every step of the way will understand my thoughts.

I strongly agree with his thoughts in his paper and I propose this new concept, reflecting on the past 60+ years of those who suffered in Hiroshima and Nagasaki.

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(Translated by Kyoko Takayama MD and Fuko Suzuki)