

Potential for Human Tissues to Expand Their Contribution in Science and Its Social Applications with Special References to Japanese Topics and Issues:  
Abbreviated Text for Health and Science Seminar Section 13

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Organs, tissues and cells removed from human body, collectively as human tissues hereafter, greatly contribute to human welfare in recent years. Accordingly, the donated human tissues are becoming valuable all over the world. It is noticeable, however, that number of organ donors, except for that of live organ donors, per one million of population (PMP value) greatly varies among countries in recent years. For example, those in many western countries are more than 20 PMP while in some other countries, including Japan, less than one PMP.

Studies have shown that Japanese people in the majority have potential wishes for donation, that they accept the benefit of human tissue-related social activities including human tissue-based medicine, science and industry, and that the Japanese standard of technology is high enough to incorporate these advanced activities. Despite all of this, however, actual donation in Japan is so infrequent. What is apparent, on the other hand, is that Japanese law system has not been fortified sufficiently since the ancient time when only pathological examination and transplantation therapy had mattered. More importantly, the ethical bases for human tissues living outside of human body have not been well discussed and established among general citizen in Japan. In due course, Japan has been depending on human tissues provided as merciful gifts from abroad much more than providing them within Japan, and has been losing the chances and advantages of enjoying advanced social welfare and international contribution.

For a long time, human tissue issues have been discussed in Japan mainly in academic societies with only a few exceptional issues including those related to organ removal from brain-dead donors, the subject of which had been discussed widely in the public, leading to the establishment of Japanese law for organ transplantation in 1997.

During the last half century, knowledge and technology have advanced rapidly not only for organ transplantation therapy, but also for somatic cells outside a human body to survive, grow, differentiate, and reconstitutes tissues and organs. Even the possibilities for somatic cells to maintain their lives for a hundred of years, and to reconstitute not only tissues and organs, but also an entire human body, are suggested with some experimental evidence. This may mean that organ transplantation issues may not be discussed separately, but with all other issues on human tissues together.

Here, it is attempted to introduce the whole issues related to human tissues for general citizen to take part in.

To do so in the beginning stage, a triggering action is proposed for citizens to focus attention on the organ donor card that has originally been designed only for transplantation purpose in Japan. The effectiveness and validity are discussed here of mentioning possibilities and conditions on the card for donated tissues to be introduced not only to transplantation and pathological examination, but to all other activities as mentioned in the above.

In the advanced stage, discussion among citizens is encouraged on the matter of ethical principles. To trigger discussion, a private set of five ethical principles for human tissues are proposed here as follows:

- First: Respect for autonomy, respect for human beings and human tissues
- Second: The beneficence principle with an extension of its application to human tissues
- Third: The principle of justice with consideration of its application to human tissues
- Fourth: The principle of respect for the humanity of human tissues
- Fifth: The principle of the free nature of human tissues

Among them the principle of justice states that equal opportunities should be given for a piece of human tissue to be introduced into any of social activities with which it may accrue benefits to the society. The principle of free nature states that the ownership of human tissue is not recognized, if payment for the expense for handling and for the added value that results from the processing of the human tissue may be recognized as compensable, being separately from the free nature of the human tissue. In addition, some legal mechanism to ensure there ethical principles are discussed.

Since infrequent human tissue donation does not only matter to Japan, but to many other countries, these lines of discussion and consideration may also be worthwhile for those other countries, as well

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