Recent Progress and Problems of Reproductive Medicine in Japan

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The Japan Society for Reproductive Medicine was founded as the Japan Society of Fertility and Sterility in 1955; ever since, for over half a century, our society has played a central role in developing reproductive medicine and improving infertility treatment in Japan. The present membership exceeds 5,000, and the society occupies a pivotal position among academic societies related to the field of reproductive medicine. Its unique interdisciplinary activities have great social influence and responsibility. Clinical outcome in the practice of reproductive medicine and research achievements in the area of reproductive medicine in Japan are now at the highest level in the world, and our society is considered to have greatly contributed to the field of reproductive medicine. This time, I take office as chairperson of the executive board of the society, which has a glorious tradition and boasts of great achievements of our many distinguished predecessors.

A longstanding desire seems to have been realized by in vitro fertilization/embryo transfer, which appeared as a result of a combination of the steady results of biological research and infertility treatments. This technology was introduced as an innovative treatment method for infertility and has rapidly become popular throughout the world. Thereafter, various technologies related to in vitro fertilization, including intracytoplasmic sperm injection, have been developed. These technologies have come to be called assisted reproductive technology (ART) and have been classified separately from conventional infertility treatments aiming at promoting natural reproductive processes. At the same time, the term, "reproductive medicine," has come to be generally used for infertility treatment, and the name of our society was changed to the "Japan Society for Reproductive Medicine" in 2006.

In recent years, there has been remarkable progress in reproductive medicine, in that reproductive phenomena have been elucidated and, furthermore, new technology manipulating reproductive phenomena in humans has been developed. The field of reproductive medicine is being revolutionized with the rapid progress in cell biology and advanced reproductive technologies, and such development of reproductive medicine depends largely on progress in developmental biology and reproductive endocrinology. Thus reproductive medicine, which is deeply concerned with reproductive phenomena, has a characteristic fundamentally different from those of other fields of medicine that deal with lives, in that new lives are born. Now, in the 21st century, advanced reproductive technologies continue to progress, and in particular, the application of somatic cell cloning technology and embryonic stem cells to regenerative medicine may bring about breakthroughs in the future development of reproductive medicine.

So far, more than 4 million children in the world and more than 200 thousand in Japan have been born as a result of ART. Prof. Robert G. Edwards developed in vitro fertilization/embryo transfer technology, bringing about a breakthrough in reproductive medicine, and was awarded the Nobel Prize in Physiology/Medicine in 2010. This honor marks the fruition of a long-cherished desire of us clinicians engaged in reproductive medicine, namely, the application of advanced technology to enable couples to conceive who previously had no hope at all of doing so. However, new medical, social, ethical and legal

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problems have arisen with the progress in technology. Furthermore, reproductive medicine has become understood as medicine that greatly changes the view of the origin of life, view of family and view of society.

In reproductive medicine, the results of manipulation of life will be taken over by the next generation, and the influence is immeasurable. I fully understand the desire of infertility couples to have children. The starting point of infertility treatment is to fulfill the desires of clients as far as we can provide medical services meeting their needs, and reproductive medicine at present is aimed at meeting their desires to the maximum extent possible. However, when ART is performed with a third person, the legal status of the newborn children becomes an important issue, and new social situations, including parent-child relationships, have to be taken into consideration. Children are not present at the time when the medical practice is performed, and general social situations and home environments of children when problems become apparent cannot be predicted, so that it is difficult to conduct a strict risk assessment in advance. Therefore, legal benefits in which the top priority is given to the welfare of the child have to be considered through careful discussion assuming all possible situations.

In view of the present state of reproductive medicine in Japan, our society has important obligations to train medical workers who will be social leaders and to provide people with safe and high-quality services of reproductive medicine by demonstrating the wisdom and good sense worthy of the academic society. The Science Council of Japan and the Japanese Board of Medical Specialties enumerate the reform of the system of medical specialties for constructing a system that can guarantee the quality of medical services. Currently, the evaluation of educational systems for training medical specialists and certification of training facilities are left to individual medical associations, and they are not properly evaluated by society. Internal criteria for the system of reproductive medicine specialties in society also need to be revised.

Reproductive medicine not only allows client couples suffering from infertility to have children, but has also greatly changed the view of the origin of life, view of family and view of society. With the general decline in the birth rate, the proportion of children born by ART is expected to increase. Society must consider how to accept such new medical technology as it brings social changes in receiving and raising children as a family. The consent of children to be born cannot be obtained even for reproductive medicine based on self-determination. The role of our society in considering how reproductive medicine should progress in Japan will become increasingly important in the future.