Plasmapheresis and Juntendo Tokyo Koto Geriatric Medical Center

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I had a valuable experience at Juntendo. First, I chose plasmapheresis (plasma exchange therapy) as my research theme and conducted experiments for many years. As a result, the plasmapheresis center was established in December 1984, the first and only in Japan. In the meantime, two devices (SELESORB and CELLSORBA) were developed. Second, I started working at Juntendo Tokyo Koto Geriatric Medical Center 11 years ago. I have managed the center since then and was inaugurated as director for 3 years.

Key words: plasmapheresis, Juntendo Tokyo Koto Geriatric Medical Center, cytapheresis, plasmapheresis center

I had a valuable experience at Juntendo, which included a study on plasmapheresis (plasma exchange therapy), establishment of the plasmapheresis center, activities as chairman of the faculty meeting, exchange of ideas with students of the Tropical Medicine Research Group. Eleven years ago, I started working at Juntendo Tokyo Koto Geriatric Medical Center and was inaugurated as director for 3 years.

First, I would like to talk about plasmapheresis. To be brief, plasmapheresis is a treatment to improve a condition by removing the etiology-related substances in plasma. The first report on plasmapheresis is that by Abel in 1914 of a case of uremia in a dog. I think that in Japan, plasmapheresis was first performed in Juntendo hospital.

In 1979, I joined the division of rheumatology (Professor Yuichi Shiokawa) and began studying plasmapheresis. At that time, plasmapheresis had been used in the treatment of rheumatoid arthritis in collagen disease, pemphigus in dermatology, and myasthenia gravis in neurology. Then, I chose to apply plasmapheresis to systemic lupus erythematosus in my research.

At that time, plasmapheresis was the bag system devised by Professor Shinji Yuasa for transfusion medicine. As a bag system, one course of the treatment was applied four times a day for 3 days. Then, an automatic monitor was developed for plasma exchange in 1982, and Professor Shiokawa carried out clinical trials in collagen disease. This automatic monitor is easy to prepare and produces the same effect in 3 hours, so I used this automatic monitor for plasmapheresis.

Also, I will describe the origins of the plasmapheresis center. Through the efforts of Professors Hirose and Ishii (Director of Juntendo hospital at that time), a two-bed center for plasmapheresis was opened in December 1984. We believe that it was the first and only one of its kind in Japan. Owing to repeated plasmapheresis experiments, the center was recognized as one of the organizations in
the hospital in May 1987. Later, the number of beds was increased, and it is now operating with 7 beds. We have conducted experiments about 2,000 times every year (Figure-1).

One of the columns that were developed by our research team is called SELESORB\(^1\). It is an adsorbent material that selectively adsorbs the anti-DNA antibody and anti-cardiolipin antibodies. In addition, CELLSORBA\(^2\), which attracts white blood cells, has been adapted for rheumatoid arthritis and ulcerative colitis. Currently, the chief of the plasmapheresis center is Dr. Yamaji, and plasmapheresis is utilized in all the departments.

Second, I would like to talk about Juntendo Tokyo Koto Geriatric Medical Center. This center was established by the Tokyo Metropolitan Government in accordance with the policy of uniting the medical, nursing care, and welfare. Medical care is carried out in this center, and nursing care and welfare are carried out at Mitsui Memorial Hospital and Medicare East.

This center was established in June 2002, and Juntendo was entrusted with the management by the Tokyo Metropolitan Government. However, in
2004, the task of operation was transferred to the Juntendo. Currently, the center is operated by a public privatization scheme.

The center has 348 beds, of which 219 are in the general ward and 129 are in the psychiatric ward. The psychiatric ward, which especially caters to patients with dementia, was established to provide treatment for dementia patients with physical diseases and peripheral symptoms. The psychiatric ward of this center is the largest in Japan in the field of dementia. The significant aspects of medical treatment are early diagnosis and early treatment of dementia, diagnosis and treatment of complications of dementia, diagnosis and treatment of various diseases of the elderly, and rehabilitation.

The best advantage of this center is the sense of security it gives to its elderly patients because of its wealth of nursing experience with the elderly. On the other hand, its limitations include the very low medical fee for evaluation, the large manpower required to run the center, and prolonged hospitalizations, which cannot be avoided. The operation and number of inpatients have been growing steadily so far (Figure-2).

Finally, the general ward is under renovation to increase the current number of beds by 56 beds. Eight more beds will be added in September 2016, and 48 more beds in January 2017. As the center caters to many elderly patients, we manage this center with improvement of awareness on medical safety. Your continued cooperation toward the continued success of our center would be greatly appreciated.

References