

Chapter VII: Concluding Remarks

In this study, we revealed that the renin angiotensin system (RAS) plays a key role in renovascular homeostasis and metabolism of fluid and electrolytes. At the present, I am aiming to develop new medicines for renal diseases in the pharmaceutical company. A renal disease progresses with having relation to various diseases, such as hypertension, inflammation, and diabetes. Eventually, the patient comes to progress chronic renal insufficiency or kidney death, there are no treatment against these diseases except for blood dialysis or a kidney transplant. In countries that are reaching an aging society like Japan, Europe and U.S.A., the number of death related to stroke or myocardial infarction is decreased, due to improvement of medical technology.

On the other hand, it is hard sledding to develop of a new medicine for a renal disease, so the number of patients with chronic renal insufficiency is increased, for example in Japan, new 30000 patients are introduced to blood dialysis every year. That is a serious problem from the economical point of view, too. In U.S.A. for a lack of an appraisal standard to evaluate effects for present medical treatment of renal diseases, it makes difficult to get consent to clinical tests from patients. They tend to rely on a surgical treatment like a kidney transplant, so in the past 20 years, a survival rate of kidney death patients is worst in medical advanced countries. Much of blood dialysis patients in Japan are complaining about working problem or QOL caused by delay of transplant treatment.

Development of new medicine for a kidney disease with a high curative effect to all stages, from early stage to chronic stage, is highly demanded from the both side patients and administration. Cost-effective analysis through comparison between new treatment and present technology by technological assessment has already been started in Europe and U.S.A. It is clear

that development of a medicine for a chronic renal disease has a big advantage, compared with blood dialysis or transplantation.

Of course, we should acknowledge well that such a development is not easy. Also, we know very well the fact that present clinical trial against various patients of renal diseases sometime do not bring a clear result because classical parameters such as urinary protein or BUN do not always correlate with prognosis. Sometime condition of patients get worse rapidly or sometime make no progress. The important points are to evaluate prognosis of a renal disease after 5 or 10 years, and to find new worthy standard. Most patient who become chronic had the opportunity of biopsy in the past, when the detection method of new standard is established, there would be possible to evaluate the prognosis of patients retrospectively using the biopsy samples. From the above point of view, the AT1a receptor deficient mice will be an usefull tool to understand of renal function of angiotensin II and to establish the detection method of new worthy standard which make possible to do more effective clinical trial.