



Submission No.: MP01-9232

Session : Meet the Professor 1 (Kidney/pancreas)

Date & Time, Place : November 18 (Sat), 07:30-08:30, Room 5F-1

Session Title : -

How to research immunosuppressant toxicity?

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All medications have side effects, and if you take the medication for a long time, the side effects of the medication also increase. In that sense, immunosuppressants are considered to be like a double edge of a sword. In solid organ transplantation, calcineurin inhibitor (CNIs) is a representative immunosuppressant and is currently the most widely administered drug. The most common side effect of CNIs is nephrotoxicity. It is ironic that the drug that suppresses rejection in kidney transplantation also worsens kidney function due to nephrotoxicity. Many researchers attempted to create an animal model of chronic nephrotoxicity caused by CNI, but failed. The reason was simple. They did not consider the differences between rats and humans. Even when high doses of CNI were given to rats, typical CNI toxic changes could not be seen in kidney tissue because rats were highly resistant to high doses of CNI. To conduct research well, you must secure a stable animal model. In that sense, we will introduce to you the chronic CNI nephrotoxicity model. A stable animal model means that experimental animals must maintain their lives well until the end of the study and that research results must be consistent without being influenced by researchers or the environment. Through this meeting with you, I would like to explain the importance of animal models and the process of conducting various research through them. Research on drug toxicity should begin with the desire to protect patients, and efforts should be made to minimize toxicity and maximize drug efficacy. Additionally, the research fields are too diverse for a clinician to do alone. Therefore, good research results can only be achieved by interacting with experts in various fields and filling in the gaps. Some may think that toxicology research is a boring and devoid of anything new. However, if researchers apply new knowledge to toxicity research, we can create new research fields.

