International Session 7: ‘Development of personalized medicine’

DEVELOPMENT OF PERSONALIZED MEDICINE; STRATEGIC APPROACH FOR PERSONALIZED MANAGEMENT IN ADVANCED GASTRIC CANCER

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Not only the many number of the patients, the biology, treatment pattern and clinical outcomes are different in Asian gastric cancer patients compared to Western area. Recently the communications and collaborations between Asia/East and West are increasing in gastric cancer research and drug development including global clinical trials. Even though many molecular targeted agents (MTA) are developed and trastuzumab is introduced in treatment of Her-2 positive gastric cancer, there are no specific and effective MTAs for gastric cancer, yet. The possible explanations are 1) heterogeneous and complex biology of gastric cancer, 2) relative lack of interest in gastric cancer, 3) lack of biologic information of gastric cancer, 4) difficulties in translational research from tissue heterogeneity and hard to get the tumor tissues, 5) not having enough and proper in vitro and in vivo model systems, and 6) no effective drug development strategy specific for gastric cancer.

The various treatment efficacy and toxicities due to tumor heterogeneity are the major obstacles in cancer treatment. The genetic differences of the tumor tissues and the host play a significant role in diverse efficacy and toxicity to chemotherapeutic agents. As the biology and genomics are improved, the treatment based on the predictive pharmacogenomics, the genome-wide evaluation of potential biomarkers for predicting treatment efficacy and toxicity, becomes one of the significant approaches for the personalized medicine, resulting in maximizing the efficacy and minimizing the toxicity of each patient. Based on the recent availability of many gastric cancer cell lines with various behaviors and unique genetic information, many translational researches for novel drug and biomarker development for personalized treatment in gastric cancer are initiated by many Asian researchers. Here, I will introduce the current status of treatment modalities approaching personalized treatment in gastric cancer.