

Past, Present & Future Prospective of Cancer in Korea; The Role of Translational Researches to Promote Cancer Cure

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In Korea, cancer is the most common cause of death and the incidence is rapidly increasing during the last three decade. Until 10 years ago, gastric cancer was single most common cancer and carcinoma of uterine cervix was most common female cancer. The incidence of the gastric cancer and cervix cancer are continuously declining, but the incidence of lung cancer, colorectal cancer, prostate cancer and breast cancer are increasing rapidly. These might be related with rapid industrialization and westernization of life style in Korea.

To conquer this miserable illness, prevention and early detection is most important, but unfortunately most of the patients are diagnosed as cancer at the advanced stage.

Currently, about 60 % of cancer patients can be cured due to improved diagnosis and treatment modalities. Traditionally, surgery and radiation therapy are applied for local control and chemotherapy is administered for systemic control. To improve the tumor control and quality of life, Multidisciplinary Multimodality Treatment is essential part of cancer treatment. 1) Improved surgical techniques like laparoscopic and robotic surgery, 2) Novel radiation therapy techniques like tomotherapy and proton beam therapy and 3) New chemotherapy techniques contributed to improve the tumor control. But in spite of improved diagnostic techniques and treatment modalities, still about 40 % of the patients die of cancer eventually.

To conquer this miserable illness, we have to overcome these issues; 1) prevention of tumorigenesis, 2) early detection, 3) prediction of recurrence and metastasis, 4) prediction of tumor response, and 5) individualized tailored Targeted Therapy.

With the new understandings of genomics and proteomics, we can pursue high-throughput molecular approaches. With the clinical application of novel genomic techniques, we can discover biomarker for early screen and diagnosis, prognostic markers, and drug targets for new drug development.

As a medical oncologist, I will briefly review the current status and future prospect of functional genomic researches to translate to clinic for the diagnosis and treatment in cancer.