Novel Approaches to Cancer Diagnosis and Therapy

Guest Editor

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Message from the Guest Editor

Dear Colleagues,

Early diagnosis, personalized treatment and biomarker-directed prognosis are the key components for the management of cancer patients. It has been well documented that the earlier the diagnosis is performed, the better will be the clinical outcome of cancer patients. Moreover, a thorough and accurate cancer diagnosis is the first step in developing an individualized cancer treatment plan. There are various ways for cancer screening including physical exam, imaging test, blood test and biopsy. Although screening test can find tumors at its early stage, falsely positive or falsely negative screening test results remain a challenge for the doctors. A reliable diagnosis is essential for cancer therapy. Discovery of novel tumor biomarkers is an important way in the development of cancer diagnosis. The current next generation sequencing may provide instructions for cancer patient stratification and treatment plan decision. Moreover, the development of robust tumor cell-free circulating DNA screening in distinct cancer types is a promising method for early diagnosis of cancer.

Genetic and epigenetic alterations, which contribute to cancer cell growth, metastasis and escape
from immunosurveillance, vary among patients. Especially, the complexity of genetic alteration of cancer cells poses a challenge in precise treatment for decades. The conventional cancer treatments such as surgery, radiation therapy, chemotherapy, hormone therapy and targeted therapy have improved the benefit of cancer patients, but many patients become resistant to these treatments and die from relapse. It is urgent to develop novel therapy strategies to increase therapeutic windows by reducing the side effects of current available cancer treatment modules. In particular, immunotherapy and oncolytic adenovirus vector based targeted therapy have shown promise in preclinical studies.

In this special issue we will bring experts in the field to communicate their findings on the development of novel approaches to cancer diagnosis and therapy. We hope that such efforts will contribute to better management of cancer patients in the clinic.

Dr. Yingqun Wang and Dr. Haihua Feng

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