Epigenetic therapies and the use of a multi-targeted approach: A new concept in cancer therapeutics

There are several barriers that influence the effective treatment of solid tumors by conventional therapies. These barriers include tumor heterogeneity and the genetic instability of cancer. It has been hypothesized that these problems may be managed by targeting angiogenesis, as angiogenic signals modify the micro-environmental cross-talk by the tumor. Oncogenic driver events may also influence the viability and clinical behavior of a given tumor. Some driver mutations are found to be targets for therapy, whereas others play crucial roles in resistance to therapy. The challenge is that tumor cells have a very sophisticated mechanism of survival, by switching their driving pathways and signaling transduction pathways in a dynamic fashion. This understanding has prompted efforts aimed at treating tumor cells with multiple drugs to inhibit as many targets as possible. The majority of these combination therapies have failed to be clinically advantageous. Research of epigenetic regulations of these targets, including angiogenesis, is relevant and exciting. We present a summary of cases of advanced Stage IV patients with heterogeneous cancer who were treated using a novel epigenetic therapy, in a protocol called multi-targeted epigenetic therapy (MTET), resulting in independent “antiangiogenic response”, as well as decreased heterogeneity of tumors, and overall reduction of tumor burden. These reductions were measured by serum/plasma VEGF measurements as a biomarker for vasculogenesis, circulatory tumor DNA and by circulatory tumor cells analysis. These markers translated to improved progression free or overall survival, and proved to be prognostic in many cases. We conclude that this small sample presents considerable effect size, and may impact the current practice of oncology by providing better prognostic and therapeutic tools targeting epigenetic aberrancies in refractory heterogeneous disease, by regulating the epigenome.

Recent Publications


Biography

M A Nezami is a Board Certified Physician graduated from USC and UCSF residencies and fellowship and trained in Integrative Cancer Therapy. He serves as Researcher and national and international Speaker, in Oncology and Epigenetic field. He has been involved in many research projects and publications/presentations. He is an Inventor and Innovator and has designed a new method of treating advanced cancer, called Multi Molecular Targeted Epigenetic Therapy (MTET). With this method, over the last 7 years, he has successfully treated many patients, mostly with advanced cancer who had failed conventional methods.

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