

Cancer Science & Pediatrics 2019: Meridian on cancer therapy - Yu Cheng Kuo - Taipei Medical University, Taiwan

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Compared to conventional western medicine based on Anatomy and Chemistry particles, traditional Chinese medicine physicians practice clinic following “Chi”. What is “Chi”? After 25 years study of pulse diagnosis, we defined it as wave or periodic signal. Under this definition, we could recognize the reality of meridians or harmonics between time and frequency domain phenomenon with Fourier Transform. Moreover, we could discover the basis of Chinese Medicine based on the mathematics and physics of meridian. Based on the results obtained from both animal and clinical experiments, we verified the pulse diagnostic method on meridians recorded in medical literature classic and designed a pulse apparatus according to this meridian principle. Through the pulse diagnostic apparatus, we could map the meridians to harmonics and quantitatively analyze the pathological excess or deficiency of the meridians including the five zang-organs and six fu organs of the patient (pathological matrix).

In addition, a series of pharmacology research analyses of acupuncture, Chinese herbs, herbs prescription formula and western drugs on the reinforcing or reducing effect of meridians were being carried out. On the other hand, with matrix operation on harmonics, we were able to simulate the whole make up meridian function of a prescription formula which is composed of several herbs (pharmacological matrix). With meridian theory, we discovered a series of compounds from *Fructus Cnidii*, which is a simplest herb formulae described in *Shang Han Za Bing Lu* n. Including BMX, these compounds have being identified as HDAC8 inhibitor.

Meanwhile, we developed these compounds guided by the meridian effect which dominate the blood perfusion of brain recorded in Chinese Medicine classic literature. As per the expectation, BMX passes through BBB (blood brain barrier) in this study. These results provide confidence to us for brain cancer therapy and star phase 1 clinic trial under US-FDA approval 2018 July. In clinic, we could apply meridian theory to cancer therapy for the complexity and variability of cancer. Radiation therapy is used to treat cancer and ease cancer symptoms.

When used to treat cancer, radiation therapy can cure cancer, prevent it from returning, or stop or slow its growth. When treatments are used to ease symptoms, they are known as palliative treatments. External beam radiation may shrink tumors to treat pain and other problems caused by the tumor, such as trouble breathing or loss of bowel and bladder control. Pain from cancer that has spread to the bone can be treated with systemic radiation therapy drugs called radiopharmaceuticals. For some people, radiation may be the only treatment you need. But, most often, you will have radiation therapy with other cancer

treatments, such as surgery, chemotherapy, and immunotherapy. Radiation therapy may be given before, during, or after these other treatments to improve the chances that treatment will work. The timing of when radiation therapy is given depends on the type of cancer being treated and whether the goal of radiation therapy is to treat the cancer or ease symptoms. When radiation is combined with surgery, it can be given: Before surgery, to shrink the size of the cancer so it can be removed by surgery and be less likely to return. During surgery, so that it goes straight to the cancer without passing through the skin. Radiation therapy used this way is called intraoperative radiation. With this technique, doctors can more easily protect nearby normal tissues from radiation. After surgery to kill any cancer cells that remain.

Internal radiation therapy is a treatment in which a source of radiation is put inside your body. The radiation source can be solid or liquid. Internal radiation therapy with a solid source is called brachytherapy. In this type of treatment, seeds, ribbons, or capsules that contain a radiation source are placed in your body, in or near the tumor. Like external beam radiation therapy, brachytherapy is a local treatment and treats only a specific part of your body. With brachytherapy, the radiation source in your body will give off radiation for a while.