

A Review of New Advances in Tumor Treatment

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The major methods used in modern Western medicine to treat cancers are surgery, chemotherapy, and radiotherapy. In recent years biological therapy, thermal therapy, angiogenesis inhibitor treatment and other new ways have also been developed to treat cancer.

Surgery in the Treatment of Cancer

Surgery is still an effective method in cancer treatment today. It is very important in the treatment of early stage cancer.

Radiotherapy in the Treatment of Cancer

Radiotherapy is the treatment of cancer and other diseases with ionizing radiation. Ionizing radiation deposits energy that injures or destroys cells in the area being treated (the "target tissue") by damaging their genetic material, making it impossible for these cells to continue to grow. Although radiation damages both cancer cells and normal cells, the latter are able to repair themselves and function properly.

Chemotherapy in the Treatment of Cancer

Chemotherapy is the treatment of cancer with drugs that can destroy cancer cells. These drugs often are called "anticancer" drugs. Normal cells grow and die in a controlled way. When cancer occurs, cells in the body that are not normal keep dividing and forming more cells without control. Anticancer drugs destroy cancer cells by stopping them from growing or multiplying. Healthy cells can also be harmed, especially those that divide quickly. Fortunately these cells usually repair themselves after chemotherapy. Harm to healthy cells can cause side effects.

Because some drugs work better together than alone, often two or more drugs are given at the same time. This is called combination chemotherapy. Chemotherapy may be the only treatment a patient receives. More often, however, chemotherapy is used in addition to surgery, radiation therapy, and/or biological therapy. Chemotherapy can be used for different goals, e.g. to cure the cancer, to control the cancer's growth, and to relieve symptoms that the cancer may cause. Cancer is considered cured when the patient remains free of evidence of cancer cells for an extended period of time. Control of the cancer is done by keeping the cancer from spreading, and slowing the cancer's growth can be achieved by killing cancer cells that may have spread to other parts of the body from the original tumor. Finally, reduction of tumor load can alleviate symptoms such as pain which can significantly improve the patient's quality of life.

Biological Therapies in the Treatment of Cancer

Biological therapy (sometimes called immunotherapy,) is a relatively new addition to the family of cancer treatments. Biological therapies use the body's immune system, either directly or indirectly, to fight cancer or to lessen the side effects that may be caused by some cancer treatments.

The immune system is a complex network of cells and organs that work together to defend the body against attacks by "foreign," or "non-self," invaders. This network is one of the body's main defenses against disease. It works against diseases such as cancer. Cancer may develop when the immune system breaks down or is not functioning adequately. Biological therapies are designed to repair, stimulate, or enhance the immune system's responses.

Immune system cells include B cells, T cells, natural killer (NK) cells, and monocytes. Cells in the immune system secrete two types of proteins: antibodies and cytokines. Antibodies respond to antigens by latching onto or binding with the antigens. Specific antibodies match specific antigens, fitting together similarly the way a key fits a lock. Cytokines are substances produced by some immune system cells to communicate with other cells. Types of cytokines include lymphokines, interferons, interleukins, and colony-stimulating factors.

Biological therapies may be used to stop, control, or suppress processes that permit cancer growth; make cancer cells more recognizable, and therefore more susceptible to destruction by the immune system; boost the killing power of immune system cells, such as T cells, NK cells, and macrophages; alter cancer cells' growth patterns to promote behavior like that of healthy cells; block or reverse the process that changes a normal cell or a precancerous cell into a cancerous cell; enhance the body's ability to repair or replace normal cells damaged or destroyed by other forms of cancer treatment such as chemotherapy or radiation, and prevent cancer cells from spreading to other parts of the body. Some biological therapies are being used alone or in combination with other treatments such as radiation therapy and chemotherapy.

Angiogenesis Inhibitors in the Treatment of Cancer

Angiogenesis plays an important role in the growth and spread of cancer. New blood vessels "feed" the cancer cells with oxygen and nutrients allowing these cells to grow, invade nearby tissue, spread to other parts of the body, and form new colonies of cancer cells. Scientists are trying to find ways to stop angiogenesis. They are studying natural and synthetic angiogenesis inhibitors (also called anti-angiogenesis agents) in the hope that these chemicals will prevent the growth of cancer by blocking the formation of new blood vessels. In animal studies, angiogenesis inhibitors have successfully stopped the formation of new blood vessels causing the cancer to shrink and die. Whether angiogenesis inhibitors will be effective against cancer in humans is not yet known. The process of producing and testing is likely to take several years.

Hyperthermia in Cancer Treatment

Hyperthermia treatment, a procedure in which body tissue is exposed to high temperatures (up to 106 F), is under investigation to assess its effectiveness in the treatment of cancer. External and internal heating devices are used. Scientists think that heat may help shrink tumors by damaging cells or depriving them of substances they need to live. Hyperthermia is almost always used with other forms of therapy (radiation therapy, chemotherapy, and biological therapy) to try to increase their effectiveness. From the above conclusions, we see the main methods in Western medicine of treating cancer are still

surgery, radiotherapy and chemotherapy. Although methods through molecular biology and genetics have a promising future, they are still in their primitive stage. Radiotherapy and chemotherapy may cause partial or systemic undesirable side effects because they destroy normal tissue as well as cancerous tissue.

Cancer Treatment in Traditional Chinese Medicine

I combine TCM methods concurrently with my patient's regimens of chemotherapy or radiotherapy. In this way, I can decrease or eliminate the undesirable side effects that often accompany radiotherapy and chemotherapy. In addition, the Chinese herbs have their own benefits including increasing the patient's appetite, boosting the immune system, facilitating the recovery of the body, and prevention of tumor regeneration or metastases. I will discuss three methods which are used extensively in my clinic.

One problem many cancer patients face is fluid retention. Western medicine treats this problem by incising the area of retention and draining the fluid. However, with this procedure the patient loses excessive amounts of protein which leads to reduction of blood volume. In addition, the fluid retention returns rapidly, the herb medicine that can decrease fluid retention. The excess fluid is excreted with the patient's stool. Using this method, proteins are retained while metabolic toxins and the excess fluid are excreted. The decrease the body fluid retention, relieve patient discomfort, and enlongate the patient's life. Have good results.

Another problem for cancer patients are the side effects of chemotherapy and radiotherapy, in particular, depression of bone marrow which leads to low white blood cell counts. When the white blood cell count is dangerously low (below 2,000), treatment is delayed until the counts reach an acceptable range. Bone marrow depression can also cause dizziness, weakness, insomnia, and ulcers in the mucous membranes of the mouth and tongue. These ulcers make it difficult for the patient to chew and swallow food. In TCM think these symptoms are caused by spleen and kidney deficiencies. To deal with the symptoms of bone marrow depression, can used Milkvetch root, Ginseng, White atractylodes rhizoma, Wolfberry fruit, Schisandra fruit, Desert-living cistanche, and Licorice root. If the patient has ulcers in the mucous membranes of the mouth and tongue (a type of deficiency of yin), can used dried Rehmannia root, Figwort root, Ophiopogon root, Rhizome Smilacis Glabrae, tree peony bark and Honeysuckle flower.

Finally, the terminal cancer patient must face excruciating pain in the final stages of the disease. For most of my patients, reliance on pain medications is reduced following acupuncture treatments. The acupuncture treatments also afford significant reductions in nausea, vomiting, headache, insomnia, and loss of appetite.

In addition, the hematopoietic and immunologic systems are strengthened through acupuncture treatments.

In conclusion, in TCM there are many principles used in the treatment of cancer such as clearing away heat and toxic material, support of healthy energy and strengthening of the body's resistance, promoting blood circulation by removing blood stasis, softening the hard lumps and dispelling the nodes, treating the malignant disease with poisonous agents, and so on. Choosing the appropriate method of treatment depends on the patient's particular condition.