The Cancer Primer: Cancer in Plain English

Imagine being thrown into a land where not only the terrain was unfamiliar, but also the spoken language was unlike any you had ever heard before. That is what many newly diagnosed cancer patients experience as they step forward into the realm of cancer treatment.

For many of us, cancer is a fear-inspiring word with a capital "C," that is surrounded by a darkened cloud of mystery. Although over 1.2 million will be diagnosed this year, our societal sense of mortality denial does not encourage learning about the disease until absolutely necessary.

Thus, newly diagnosed patients must struggle to grasp the very basics of "cancerese." For instance, the word "cancer" and its study become transformed into the latin-based word "oncology" "onc" meaning tumor and "ology" for the study of. Those physicians who specialize in cancer treatment are referred to as "oncologists."

So what essentially is cancer? To begin, it is important to remember that the body is an organic being that grows continuously from the time an egg is fertilized until reaching adulthood. Thereafter, the cells continue to repair, restore and replenish.

For the most part, this runs smoothly. However, some cells may continue in uncontrolled behavior and rapid growth. As the cells accumulate, they begin to form a lump or mass, which is referred to as a "tumor."

Tumors may be either benign or malignant. Benign tumors are not cancerous, and do not usually cause problems. Examples of benign tumors would be moles, freckles and fatty lumps.

Malignant tumors on the other hand are considered to be cancerous. These tumors spread and invade surrounding healthy tissue. They can also spread to other parts of the body.

The transition of a normally healthy cell into one that becomes a renegade occurs by a process which researchers call "the multiple hit." It is believed that cancerous cells have come into contact with substances that have genetically altered their stricture, resulting in their uncontrolled behavior and rapid growth.

The substances which precipitate these changes fall into two categories: "intiators" and "promoters." Initiator, which bring about the change, include elements such as tobacco, x-rays, certain hormones and drugs, sunlight and industrial toxins. Promoters, which encourage the change, include alcohol, high fat diets and stress.

As the tumor grows, some cells may break free and spread to other locations in the body. When this occurs, the cells are said to have "metasticized."

There are three ways in which cells may metaticize. First, they may spread by growing into tissue and organs surrounding the tumor. Or they may "catch a ride," so to speak, through the blood system. Tumors are unfortunately able to develop their own blood supply. They can break free and travel through the blood vessels to other parts of the body. Another means of transport would be through the lymphatic system, which carries waste products away from cells.

Malignant tumors fall into one of three categories: 1) carcinomas which develop in tissue that covers or lines organs and passageways; 2) sarcomas which develop in soft tissue or bone; and 3) tymphomas and leukemias which develop in the lymphatic system or bone marrow.

Cancers are diagnosed through several means: imaging (including x-rays, CTs, ultrasound, MRIs), biopsy (the removal of a bit of tissue for examination), or through blood and fluid tests (cancerous tumors sometimes release substances which can be found in the body's fluids).

Once diagnosed, the cancer is then staged. Staging is simply categorizing the tumor based upon size, extent of its development and the degree to which it has spread. This staging is important in determining the appropriate treatment and prognosis.

The treatment pursued id dependent upon the type of cancer, the degree of its development and sometimes the preference of the patient. For instance, tumors that are localized and are confined to its place of origin, may be surgically removed.

Cancer that has spread may also be treated with radiation (radiation therapy) or chemicals (chemotherapy). Both of these therapies strive to cause damage to the DNA of the cancer cells, thereby destroying them. Hormonal therapy attempts to control and inhibit the growth of the cancer cells through the use of hormones such as estrogen or progesterone. Proteins are used in biological therapy to activate and improve the efficiency fo the immune system. Cryosurgery uses specialized equipment to freeze and kill tumors.

Although sometimes used exclusively, these therapies may also be used in combination with one another. This is called adjuvant therapy. A common example would be surgery, followed up with radiation and chemotherapy.

In addition to these conventional therapies, two other categories of therapies are bandied about in th emedia and on the web. The first is alternative therapy. Often called holistic, natural or new age, these approaches have not been subjected to the rigorous testing that conventional therapies have. Safety, consistency and effectiveness are important standards to meet. It is relevant to consider that if these “alternative” therapies met the stringent standards, then they would be embraced by the medical community. Physicians are always striving to bring greater healing to their patients and would readily use proven therapies. Although hope is a powerful driving force, patients should be wary of unproven claims of cure.

Another category of therapy, often confused with alternative ones, is that of complimentary therapies. These would include meditation, massage, yoga, relaxation and visualization methods, and are recognized for their ability to improve well-being. It is important to note that they do not treat the cause of the cancer, but can aid in alleviating cancer symptoms. Although these therapies may be used in conjunction with conventional therapies, they are not recommended in lieu of.

During the course of treatment, a patient may be informed of clinical trials being conducted to research specific forms of cancer. Clinical trials are the carefully monitored, controlled testing of new drugs and procedures. This aids in determining the effectiveness and consistency of such approaches. Under strict government guidelines, these approaches have already been deemed safe for experimentation with humans.