THE CANCER DICTIONARY

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removed but do not require a STOMA. A section of the ileum (lower part of the small intestine) is removed during surgery; one end is attached to the URETERS and the other is connected to the remainder of the urethra, forming a canal for the urine. To avoid leakage, the person must urinate frequently.

CAMP a combination of the anticancer drugs CYTOXAN, ADRIAMYCIN, METHOTREXATE, and PROCARBAZINE sometimes used in the treatment of NONSMALL CELL LUNG CANCER. See individual drug listings for side effects. See also COMBINATION CHEMOTHERAPY.

cancer a general term for more than 100 diseases characterized by the uncontrolled, abnormal growth of cells in different parts of the body that can spread to other parts of the body. Different cancers have "unique" characteristics requiring different treatments. Cancer is frequently a chronic—that is, recurring—disease.

Cancer has been around for centuries. Evidence of cancer has been found in skeletons of prehistoric animals and in Etruscan, Peruvian, and Egyptian mummies. A link between the environment and a tumor was first observed in England in 1775 by Percival Pott, who found that cancer of the scrotum appeared frequently in chimney sweeps in London.

Today, cancer is classified into five major groups:

- CARCINOMA—a cancerous tumor or lump, originating in the surface tissue of body organs. It is the most common form of cancer, accounting for 80 to 90% of cases
- SARCOMA—a cancerous tumor originating in the bone, cartilage, muscle, fibrous connective tissue, or fatty tissue
- MYELOMA—a cancerous tumor originating in the plasma cells of the BONE MARROW
- LYMPHOMA—a cancerous tumor originating in the lymph system
- LEUKEMIA—cancer originating in the blood-forming tissue.

Cancer cells cause harm in a number of different ways. They deprive normal cells of nourishment or space. They can form a mass, or tumor, which may eventually invade and destroy normal tissues. They can also spread (metastasize) by traveling through the bloodstream or lymphatic system to other parts of the body.

Most cancers take years to develop. For example, lung cancer used to be fairly rare among women. After World War II, millions of women started smoking when it became "socially acceptable." About 40 years later, lung cancer replaced breast cancer as the leading cause of death from cancer among women. Cancer that is detected and treated before it has invaded adjacent organs or metastasized has the greatest possibility of being cured.

The risk of cancer increases as one ages. However, it can affect males and females of any age, any social class, and any nationality.

There were more than 1,040,000 new cases of cancer diagnosed in the United States in 1990 (not including carcinoma IN SITU and nonmelanoma skin cancer) and about 500,000 deaths. In the early 1900s most people who got cancer died within a few years. By the 1930s one person in five lived five or more years after being treated. That changed to one in four in the 1940s, and one in three in the 1950s. In 1990 it was four in ten, or 40%. However, when normal life expectancy is taken into account, the relative five-year survival rate is 50%.

Different cancers have different symptoms. The American Cancer Society has a general list of seven basic symptoms that could be warning signs of cancer:

1. unusual bleeding or discharge
2. a lump that does not go away
3. a sore that does not heal within two weeks
4. change in bowel or bladder habits
5. persistent hoarseness or cough
6. indigestion or difficulty in swallowing
7. change in a wart or mole.

These symptoms can also occur in many other conditions. If they persist, medical attention should be sought.

There are four types of treatment for cancer. In the early 1900s, SURGERY was the only known treatment for cancer. In the 1930s, radium (RADIATION THERAPY) was recognized as an effective treatment for cancer. CHEMOTHERAPY (anticancer drugs) was first used in the 1950s, when it successfully treated choriocarcinoma, a gynecological cancer. Treatment became increasingly more effective as combinations of surgery, radiation, and chemotherapy became more common in the treatment of different cancers. The 1970s and 1980s saw the increasing development of immunotherapy or BIOLOGICAL THERAPY. Although this type of

treatment is still in its earliest stage, many researchers are optimistic that the continuing investigation of biological therapy will find ways for the body's own IMMUNE SYSTEM to fight successfully the cancer battle within it.

Another focus of continuing research is the development of new diagnostic tests, and the refinement of tests already in use, that detect cancer in its earliest stage and accurately show where in the body it has spread and that can assess the possibility that the cancer will recur, or return, after it has been treated. Some of the newer techniques and tests being studied include using high-frequency sound waves to produce detailed pictures of structures in the body; measuring minute differences of heat in the body to locate cancer; and using TUMOR MARKERS, biological substances in the body that can indicate the presence of cancer.

Finally, scientists continue to search for the causes of cancer and ways to prevent it. Some researchers theorize that cancer cells are always present in the body and that the immune system is always fighting them off until something goes wrong, and one area being heavily researched is the role that genes play in the development of cancer (and in its treatment). Scientists are also trying to identify additional CARCINOGENS, agents that cause cancer. One carcinogen that has been known about for years is cigarette smoke. It is well documented that smoking puts a person at a much greater risk of getting lung cancer as well as other cancers. Some foods and vitamins, such as beta carotene and fiber, are being investigated for their role in preventing cancer.

See subject index for types of cancers, symptoms, side effects, drug treatments, and other major topics included in this volume.

cancer genes see ONCOGENE.

cancer registry see TUMOR REGISTRY.

CAP a combination of the anticancer drugs CISPLATIN, ADRIAMYCIN, and CYTOXAN sometimes used in the treatment of NONSMALL CELL LUNG CANCER and cancer of the kidney, bladder, and prostate. See individual listings for side effects. See also COMBINATION CHEMOTHERAPY.

carbohydrate antigen see CA 19-9.

carbon dioxide laser a laser that uses carbon dioxide to produce a powerful light beam. In LASER THERAPY for cancer, the carbon dioxide laser is primarily used as a surgical tool. The carbon dioxide laser is used to shrink or destroy tumors. The light energy changes to heat and cuts or vaporizes cancerous tissue with relatively little bleeding. When it is used with an ENDOSCOPE, the laser's light is transmitted through the flexible endoscope, enabling the surgeon to see and work, with great precision, in parts of the body that otherwise could only be reached with traditional surgery.

carboplatin (kar"bo-pla'tin) [CBDCA, JM-8, Paraplatin, cyclobutan dicarboxylate platinum] an ALKYLATING anticancer drug, which in the late 1980s and early 1990s was considered the drug of choice in the treatment of OVARIAN CANCER. It is also used in a variety of other cancers, including cancer of the lung, head, and neck. It was designed to be as effective as CISPLATIN, the parent compound, with less toxicity. It is given by IV (injection into a vein). Possible side effects are severe nausea and vomiting, BONE MARROW DEPRESSION, ANEMIA, kidney problems, and neurological damage. Carboplatin is one of the more important anticancer drugs in use.

carboxamide see DTIC.

carcinoembryonic antigen see CEA.

carcinogens (kar-sin'-o-jenz) substances known to cause and/or promote cancer. Carcinogens can be created by humans, such as cigarette smoke, or simply be present naturally in the environment, as is ULTRAVIOLET RADIATION from the sun, both of which are known to play a major role in the development of cancer. X RAYS and VIRUSES are also known carcinogens.

Carcinogens can work to cause cancer in different ways. Some cause changes that turn a normal cell in the body into a cancer cell. Others can set up conditions that help the action of other factors that cause the cancer.

Many cancers develop slowly. It can take from 5 to 40 years for cancer to develop after exposure to a cancer-causing agent, making it difficult to identify carcinogens. The number of exposures and the length of time exposed to a carcinogen are two of the factors that play a role in when and if cancer will develop.

Treatment IND (investigational new drug) a program of the Food and Drug Administration that makes certain experimental drugs available to seriously ill people, generally people for whom there is no other available treatment. Drug companies may charge for the drug. See COMPASSIONATE DRUG.

treatment port see EXTERNAL RADIATION THERAPY.

triamcinolone see ADRENOCORTICOIDS.

triazinate [TZT, Baker's antifol, ethansulfonic acid compound] an anticancer drug being investigated for its use in the treatment of cancers of the brain, kidney, stomach, breast, colon, and lung. It is administered by IV (injection into a vein). Common side effects may include nausea, vomiting, BONE MARROW DEPRESSION, skin darkening, skin rashes, mouth sores, and diarrhea. Occasional and rare side effects may include visual disturbances and headaches.

triethylene thiophosphora see THIOTEPA.

true cords see VOCAL CORDS.

TSE see TESTICULAR SELF-EXAMINATION.

TSEB see TOTAL SKIN ELECTRON BEAM RADIATION THERAPY.

TSH see THYROID STIMULATING HORMONE.

TSPA see THIOTEPA.

tubular ductal breast cancer a relatively rare form of BREAST CANCER occurring about 1% of the time. The tumor has tube-shaped structures ringed with a single layer of cells. It is a well-differentiated carcinoma. It generally has a favorable PROGNOSIS.

tubulovillous polyps see INTERMEDIATE POLYPS.

tumor an abnormal tissue growth or mass on or in the body that serves no useful purpose. A tumor can be benign (noncancerous) or malignant (cancerous). It can be a MIXED TUMOR, meaning it has two or more cell types. Most tumors do not become cancerous. Following are the characteristics that distinguish a benign tumor from a malignant tumor:

- a *benign* tumor grows slowly, has limited growth, and does not destroy normal cells; a *malignant* tumor grows rapidly, destroys normal cells, and has unlimited growth potential
- a *benign* tumor continues to grow in the place where it originated; a *malignant* tumor can spread to other parts of the body
- a *benign* tumor usually does not have serious side effects (the major exception being brain tumors, which grow in a confined space); *malignant* tumors are life threatening
- *benign* tumors grow in an orderly way; *malignant* tumors grow in a disorderly way, unpredictably.

Some tumors are characterized as precancerous. Precancerous tumors do not always become cancerous, but they should be removed, if possible, to avert the possibility of cancer developing.

tumor barrier barriers developed by tumors that prevent chemotherapy (anticancer drugs) from reaching many of the cancer cells in the tumor. An example of a barrier would be an area of collapsed blood vessels. The anticancer drugs that travel through the bloodstream would not be able to reach an area with few or no normal blood vessels. Therefore, the chemotherapy may be able to destroy the outer parts of the tumor but would not be able to eradicate the entire tumor.

tumor debulking surgical removal of as much of a tumor as possible.

tumor embolization (em"bo-li-za'shun) obstruction of blood vessels by a tumor. This condition can prevent chemotherapy (anticancer drugs) from reaching parts of the tumor.

tumor growth factors (TGF) hormone-like proteins secreted by a cancerous tumor that stimulate the growth of identical cancer cells. MONOCLONAL ANTIBODIES can bind to the substances and inactivate them. Researchers have identified TGF associated with different cancers. For example, TFG-alpha, epidermal growth factor, and fibroblast growth factors are produced by human breast cancer cells that have been stimulated by estrogen.

tumor infiltrating lymphocytes (TIL) lymphocytes, a type of WHITE BLOOD CELL, that can invade or