

# Neoplasm



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A neoplastic growth is called a neoplasm . An abnormal proliferation of cells in a tissue or organ is referred to as Neoplasia meaning new growth in geek language. This research paper takes a brief look at the definition, characteristics, symptoms, treatment and prevention of neoplasm a new and abnormal growth of tissue, which may be benign or cancerous.

Generally neoplasms form distinct masses, or tumors, but there are also many examples of neoplastic processes which are not grossly apparent, a common example being pre-cancerous lesions of the cervix, however, it is important to note that the term neoplasm is not the same as cancer because neoplasms can be either benign or malignant. It is however, interesting to note that there is no single complete consensus in the biomedical community as to the exact biological definition of a neoplasm, although a statement credited to R. A. Willis a British oncologist is widely cited:

“ A neoplasm is an abnormal mass of tissue, the growth of which exceeds and is uncoordinated with that of the normal tissues, and persists in the same excessive manner after cessation of the stimulus which evoked the change”.

Neoplastic tumors often contain more than one type of cell, but their initiation and continued growth is usually dependant on a single population of neoplastic cells which are clonal - that is, they are descended from a single progenitor cell. The neoplastic cells typically bear common genetic or epigenetic abnormalities which are not seen in the non-neoplastic stromal cells and blood-vessel forming cells, whose growth is dependant on molecular stimuli from the neoplastic cells. The demonstration of clonality is

now considered by many to be necessary (though not sufficient) to define a cellular proliferation as neoplastic.

Symptoms depend on the type and location of the tumor. For example, lung tumors may cause coughing, shortness of breath, or chest pain, while tumors of the colon can cause weight loss, diarrhea, constipation, iron deficiency anemia, and blood in the stool. Some tumors produce no symptoms, but symptoms that often accompany tumors include: Fever, Chills, Night sweats, Weight loss, Loss of appetite, Fatigue, and Malaise

Like the symptoms, the signs of tumors vary based on their site and type. When a tumor is found, a biopsy is performed to determine if the tumor is benign or malignant. The biopsy may be a simple procedure or a serious operation depending on the location of the tumor. More recently, positron emission tomography (PET) scans have been used to visualize certain tumors types. Complete blood count (CBC), Blood chemistries, Biopsy of the tumor , and Chest x-ray are other common tests that can be undergone by patients with malignant neoplasm.

Treatment also varies based on the type of tumor, whether it is benign or malignant, and its location. If the tumor is benign (meaning it has no potential to spread) and is located in a " safe" area where it will not cause symptoms or disturb the proper functioning of the organ, sometimes no treatment is needed. Benign tumors of the brain may be removed because of their location or harmful effect on the surrounding normal brain tissue.

Treating malignant neoplasms require surgery, radiation, chemotherapy, or a combination of these methods.

In conclusion it should be noted that the risk of malignant tumors (cancer) can be reduced by eating a healthy diet, exercising regularly, not smoking or chewing tobacco, avoiding heavy alcohol consumption, maintaining a healthy weight, reducing sun exposure if you burn easily, and minimizing exposure to radiation and toxic chemicals. However, it is advisable that you call your healthcare provider if you notice any suspicious lumps or bumps on your body or if you notice a new or changing mole on your skin.

#### Reference

Willis RA, (1952). *The Spread of Tumors in the Human Body*. London, Butterworth & Co.