

Abnormal Cells Proliferation

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Rec Date: Apr 20, 2016; Acc Date: Jun 21, 2016; Pub Date: Jun 28, 2016

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Keywords: Abnormal cells; Stromal cells

Abnormal Cells Growth

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 stimuli which evoked the change. We know that the persistence of tumours, even after the inciting stimulus is gone, results from inheritable genetic alterations that are passed down to the progeny of the tumor cells. This genetic changes allow excessive and unregulated proliferation that becomes autonomous (independent of physiologic growth stimuli), although tumors generally remain dependent on the host for their nutrition and blood supply. The entire population of cells within a tumor arises from a single cell that has incurred genetic changes and hence tumors are said to be clonal. Histologically abnormal cell growth we can see in the epithelial as well as in the stromal cells. In the carcinoma (abnormal epithelial cell proliferation), we see many changes in the architectural and cellular level. Regarding the cellular level microscopically we see the cellular pleomorphism (anisocytosis), alteration in nuclear: cytoplasmic ratio, nuclear hyperchromatism, prominent nucleoli, increased mitosis, along with abnormal mitosis and dyskeratosis. In sarcoma for example in fibrosarcoma we see the particular arrangement of atypical fibroblast cells in form the fascicles that classically form a herring-bone pattern. Osteosarcoma shows the atypical proliferation of osteoblast cells. Liposarcoma histologically

shows the three major types, first is atypical lipomatous tumor, second myxoid liposarcoma and third pleomorphic liposarcoma. Angiosarcoma is a rare malignancy of vascular endothelium characterized by proliferation of the hyperchromatic and atypical endothelial cells. Kaposi's sarcoma is an unusual vascular neoplasm, shows the three stages, and first is macular stage in which the proliferation of miniature vessels second is the plaque stage demonstrates further proliferation of these vascular channels along with the development of a significant spindle cell component. In the nodular stage, the spindle cells increase to form a nodular tumor-like mass. The leiomyosarcoma is a malignant neoplasm of smooth muscles characterized by the fascicles of spindle-shaped cells. Immunohistochemical analysis usually reveals the presence of desmin, muscle-specific actin (HHF 35), Smooth Muscle Myosin (SMMS) and smooth muscle actin. Rhabdomyosarcoma is a malignant neoplasm that is characterized by skeletal-muscle differentiation. Lymphoma is one of the malignancy shows the proliferation of atypical lymphocyte cells. Hodgkin's Lymphoma shows the presence of Reed-sternberg cells. Thus above we have discussed the abnormal cell proliferation in short, involving the epithelial and different type of stromal cells which can help in the diagnosis of particular pathology. There are now dramatic improvements in therapeutic responses and 5-year survival rates, with many forms of malignancy, notably the lymphomas. A greater proportion of cancers is being cured or arrested today than ever before. Target the cancer cells by target therapy is one of the new hope in treatment for cancer.