Lung Cancer in Never-Smokers

Lung cancer in never-smokers can be caused by environmental triggers, such as cooking fumes, secondhand smoke, asbestos, radon gas and various cancer-causing chemicals.

Further distinguished by its histologic type, lung cancer in never-smokers is most often a type of non-small cell lung cancer called adenocarcinoma, while smoker diagnoses are more evenly divided among adenocarcinoma and squamous cell carcinoma, another type of non-small cell lung cancer.

**Estrogen:** Because two-thirds of never-smokers diagnosed with lung cancer are women, estrogen is thought to play a role in the same way it’s proven to promote proliferation of breast cancer cells.

**Human papillomavirus:** Research has found an association, mainly among Asians, between HPV and lung tumors in never-smokers. HPV types 16 and 18, which are also linked to cervical, vulvar, and head and neck cancers, appear to be the most common offenders.

**Mutations of EGFR:** Activation of the epidermal growth factor receptor triggers DNA replication and cell division, and tumors with mutations in the gene for EGFR are found most often in women, Asians and never-smokers.

Squamous cell carcinomas are found centrally in the lung near the bronchi.

Adenocarcinomas are found near the edge of the lung.