**Final Diagnosis:** Large Cell Carcinoma (undifferentiated)

**Discussion:**
Microscopic examination shows extremely large, bizarre and highly pleomorphic cells with large, misshapen and pleomorphic nuclei. There are also prominent nucleoli and numerous atypical mitotic figures. In the background, there are multiple scattered lymphocytes and neutrophils. Some of these neutrophils are present inside the tumor cell (emperipolesis). The mass does not involve the overlying mucosa or appear to arise from it. The immunophenotype is as follows: S-100, CK34-BE, CK7, CK20, CEA, napsin, TTF-1, p63 and CD31 negative. The tumor cells are positive for CAM 5.2 and vimentin. A PAS with and without diastase shows intracytoplasmic glycogen within the giant cells. These findings are most consistent with metastatic large cell carcinoma, which is most likely associated with a corresponding lung primary given the patient’s clinical history. Shortly after the specimen was submitted, the patient rapidly deteriorated and expired.

Large cell carcinoma of the lung has previously been called large cell anaplastic carcinoma and large cell undifferentiated carcinoma. WHO 2004 edition defined lung large cell carcinoma as "an undifferentiated non-small cell carcinoma that lacks the cytologic and architectural features of small cell carcinoma and glandular or squamous differentiation. It encompasses several types of lung carcinomas including large cell neuroendocrine carcinoma, basaloid carcinoma, lymphoepithelioma-like carcinoma, clear cell carcinoma and large cell carcinoma with rhabdoid phenotype. The tumor is usually consist of sheets or nests of large polygonal cells with vesicular nuclei and prominent nucleoli, and moderate amount of cytoplasm. They can be associated with peripheral eosinophilia or leukocytosis.

**References:**