Mucous gland adenoma (MGA) of the lung is an uncommon, benign tumor that histologically resembles the mucus-secreting component of the tracheobronchial gland. The majority arises within the main, lobar or segmental bronchi. MGA presenting as a peripheral lung mass is extremely rare. We herein report a case of MGA that uniquely arose from the peripheral territory of the superior segmental bronchus of the left lower lobe in a 73-year-old male. Chest computed tomography showed a 13 mm-sized, subpleural nodule, which was easily enucleated by video-assisted thoracotomy. The mass was round and gray-tan in color with mucoid material. The tumor was composed of cysts, tubules, and glands lined by bland columnar, cuboidal or flattened, mucus secreting cells.

Key Words: Adenoma-Bronchi-Coin Lesion, Pulmonary-Respiratory Tract Neoplasm

Mucous gland adenoma (MGA) of the lung is a relatively uncommon, benign tumor that histologically resembles the mucus-secreting component of the tracheobronchial gland. The majority arises within the main, lobar or segmental bronchi. It is extremely rare for MGA to occur in a subsegmental bronchus. We could find only two cases in the English literature.1,2 We herein add a case of MGA which uniquely arose from the peripheral territory of the superior segmental bronchus of the left lower lobe in a 73-year-old man.

CASE REPORT

A 73-year-old Korean man was referred to our hospital due to an incidentally found lung mass. He complained of cough and white sputum for a month. He was a smoker with a history of 25-pack years but other medical history was unremarkable. Chest computed tomography revealed a solitary, subpleural nodule, measuring 1.3 cm, which was located in the medial aspect of the superior segment area of the lower lobe of the left lung on the lateral side of the descending aorta (Fig. 1). No endobronchial lesion was found on bronchoscopic examination. The patient underwent video-assisted thoracotomy biopsy for histologic examination with frozen section, which showed crowded tubular glands lined by tall columnar mucus-secreting cells. The possibility of mucoepidermoid carcinoma or mucinous bronchioloalveolar carcinoma could not be excluded with certainty at that time and so lobectomy of the lower lobe was subsequently performed. The tumor was 1.5 × 1.3 cm in size and ovoid, sharply circumscribed and easily separated at the attachment to the airway (Fig. 2A). The cut surface was solid and gray-tan in color and showed mucous material without hemorrhage or necrosis. In close examination, several small cystic spaces were noted. Microscopically, the tumor was well circumscribed by respiratory epithelium and consisted of numerous irregularly arranged, tubular or dilated glands lined by a single layer of tall, columnar, mucus secreting cells. No cartilaginous plate was identified from the separated mass. The lamina propria of the mucosa was expanded and effaced by a multicystic tumor. The cysts varied greatly in size and shape, with larger cysts being found near the surface of the tumor (Fig.
A variety of cell types lined the cysts, tubules and glands. Tall columnar to flattened cuboidal cells characterized the larger cysts near the surface epithelium (Fig. 2C). Nuclei of the epithelial-lined cysts were round to oval with uniform nuclear membranes without pleomorphism and mitoses (Fig. 2D). No intermediate cells or squamous component was found. The intervening stroma consisted of delicate connective tissue. Several lymphoid aggregates were found. The epithelial cells were immunoreactive to cytokeratin (AE1/AE3, Zymed, USA, 1:80) and negative to smooth muscle actin (Dako, Denmark, 1:100), S-100 protein (Dako, 1:2,000) and glial fibrillary acidic protein (Biogenex, USA, 1:3,000).

DISCUSSION

Pulmonary adenomas are uncommon and can be classified as alveolar adenoma, papillary adenoma, mucinous cystadenoma or adenomas of the salivary-gland type, which include pleomorphic...
adenoma, monomorphic adenoma, myoepithelioma and MGA. MGA is a very rare, benign neoplasm of the lung. We could find less than 70 cases in the English and Korean literature. Most patients with central MGA have symptoms of cough, fever, and recurrent pneumonia. Chest x-ray typically reveals a coin lesion but otherwise only obstructive pneumonitis and postobstructive atelectasis are observed. The tumor usually presents as a solitary mass, more often in children or young adults. The majority arises within the main, lobar or segmental bronchi and rarely in trachea. The current case presented as a peripheral lung nodule arising from the submucosal mucinous gland in a peripheral small airway. MGA presenting as a peripheral mass is an extremely rare condition and we could find only two cases reported in the literature.

MGA histologically resembles mucus-secreting components of the tracheobronchial seromucinous glands and predominantly shows an endobronchial, multicystic, well-circumscribed tumor. MGA is contained only within the bronchus above the cartilagi nous plates and displays a prominent cystic component with mucin.

Histological differential diagnoses include mucinous cystadenoma, mucoepidermoid carcinoma, mucinous bronchioloalveolar carcinoma, and metastatic adenocarcinoma. Mucinous cystadenoma consists of a unilocular, occasionally multilocular cyst filled with mucus and enclosed by a fibrous capsule. The single layer of mucinous epithelium may range from tall columnar to low cuboidal cells, and may be focally absent or piled up in papillary projections. Mucus, sometimes containing small clusters of detached epithelial cells may be present in and outside the capsule. Inflammation and fibrosis of the cyst wall tend to cause flattening or loss of the epithelium. Invasion of the lung parenchyma, significant atypia and prominent pseudostratification suggest mucinous cystadenocarcinoma. Mucoepidermoid carcinoma may be cystic and has a mucus-rich epithelium, but is composed of uniform, polygonal or columnar cells arranged in a sheet or trabecular that are either solid or contain well-defined, cyst-like spaces. Intermediate cells are arranged in a sheet-like “spideroid” fashion. Mucinous bronchioloalveolar carcinoma is a well-differentiated neoplasm lining along the alveolar septa and composed of tall columnar cells with basal nuclei and abundant, mucin-containing cytoplasm.

The diagnosis is important because minimal treatment and management such as endoscopic removal or wedge excision may be sufficient for MGA, in contrast with more invasive forms of treatment required for other tumors of the lung.

REFERENCE