A CASE OF PRIMARY INTRAPULMONARY MENINGIOMA

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Background: Primary intrapulmonary menigioma is extremely rare. We report a case of the tumor.

Design: A surgically resected lung tumor was studied clinicopathologically with histopathological, immunohistochmical and ultrastructural analyses.

Results: A 44-year-old man with hypertension and obesity had a health checkup in 2008. Chest X-ray examination revealed a solitary round mass in the left upper lobe. He was suspected of having a benign lung tumor and was referred to our hospital. For diagnostic and therapeutic purpose, wedge resection of the left lung segment 1+2 was performed by VATS procedure. On gross examination, the tumor was well-circumscribed and located subpleurally, measuring 2.0x2.0x1.8 cm in size. It was grayish white in color and elastic firm in consistency. Microscopically, the tumor comprised of plump to spindle cells with round to oval nuclei and indistinct cellular borders. The tumor cells were arranged in a fascicular fashion or whorls interspersed by collagen bundles and small vessels. Psammoma bodies were commonly seen. Mitotic figures were scarce. The microscopic findings indicated a mesenchymal tumor, and the differential diagnosis included meningioma, solitary fibrous tumor, and inflammatory myofibroblastic tumor among others. Immunohistochemically, the tumor cells were positive for vimentin, EMA, bcl-2, CD99, and claudin-1; and negative for cytokeratin, SMA, and ALKp80. A small number of tumor cells were weekly positive for progesterone receptor, S-100, and CD34. Ultrastructurally, the tumor cells had long and slender cytoplasm, often in parallel arrangement and with interdigitations. Intercellular junctions including desmosomes were commonly formed between the cell processes. The cytoplasm often contained numerous intermediate filaments. Based on the

histopathological findings including the characteristic meningothelial pattern and immunohisochemical positivity for EMA and claudin-1 together with the ultrastructural features, the tumor was diagnosed as meningioma. No central nervous system meningioma which could cause pulmonary metastasis was detected in the patient. He had an uneventful postoperative course and has no recurrence of the tumor 9 months after tumor resection.

Conclusions: Review of the literature shows favorable prognosis of the primary intrapulmonary meningioma, i.e., complete surgical resection is curative. Albeit quite rare, meningioma should be considered as a differential diagnosis of pulmonary mesenchymal neoplasms.