Spontaneous Expectoration of Primary Pulmonary Synovial Sarcoma

Rieko Watanabe, MD,* Mitsuhiro Kamiyoshihara, MD,† Kyoichi Kaira, MD,* Atsushi Motegi, MD,‡ and Atsushi Takise, MD*

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A 34-year-old Chinese man who had smoked about 20 cigarettes per day for the past 14 years presented with cough and hemoptysis that had persisted for 2 months. Chest radiography revealed mass shadow in the left lower field. A computed tomographic scan of the chest revealed the tumor in the left lower lobe, occupying left main bronchus lumen with polypoid endobronchial growth (Figure 1). Physical examination revealed wheezing in the left lung field. Routine laboratory investigations were within the normal limit. An abdominal–pelvic computed tomographic scan, bone scan, and Ga-67 citrate scintigraph were performed, and there was no evidence of diseases other than this lung mass. Bronchoscopy was performed, revealing a smooth, well-demarcated polypoid mass (Figure 2). The biopsy specimens only revealed necrotic tissue. Twelve days after the bronchoscopy, the patient expectorated a polypoid mass tissue with concurrent hemoptysis (Figure 3). Thoracotomy was performed for resection of the mass and lobectomy of the left lower lobe, and the patient was uneventful after the surgical resection. Macroscopically, a polypoid tumor arose from the left lower lobe, protruding into the left lower bronchus to the left primary bronchus. Microscopically, this tumor was suggestive of synovial sarcoma (Figure 4). Immunohistochemically, tumor cells were positive for vimentin and focally positive for pancytokeratin, recognized by AE1/AE3, cytokeratin 7, and...
epithelial membrane antigen. SYT-SSX1 fusion gene transcripts, which is characteristic of synovial sarcoma, was detected by a reverse-transcription polymerase chain reaction using RNA extracted from formalin-fixed, paraffin-embedded tissues. The definite diagnosis was primary pulmonary synovial sarcoma. The expectorated specimen also revealed the same type of pathology as the resected material. The tumor was completely resected with left lower lobectomy of the lung. Adjuvant therapy was not given, but the patient has remained healthy without recurrence of the tumor.

Primary pulmonary synovial sarcoma is rare and occurs in 0.1% of all primary pulmonary neoplasms. Recently, primary pulmonary synovial sarcoma has been increasingly recognized, and around 50 cases have been reported in the English-language literature thus far. Only two previous cases of primary pulmonary synovial sarcoma with endobronchial polypoid growth have been reported, and only 17 cases of tumor expectoration have been identified. To our knowledge, cases of expectorated synovial sarcoma have never been described.

Expectoration of large tumor fragments is extremely rare. Expectoration is most often spontaneous, but in two cases it has been induced by bronchoscopy. Our patient expectorated the large tumor fragment after bronchoscopy and was uneventful during the expectoration. Physicians should be alert to the fact that patients may expectorate pieces of tumor spontaneously.

REFERENCES

FIGURE 3. Expectorated specimen showing cylindrical, sausage-shaped, rubbery tumor measuring 7.5 × 2.0 × 1.5 cm.

FIGURE 4. Microscopic examination of the tumor showing a proliferation of oval to spindle-shaped cells arranged in sheets and fascicles.