Surgical Resection of Metastatic Choroidal Melanoma in the Rib and Bronchus

− A case report −

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Choroidal melanoma is the most common primary intraocular cancer in adults. The predominant sites of metastasis that are associated with a poor prognosis are liver, lung and bone. The authors report here on a case of metastatic choroidal melanoma in the rib and bronchus, and this was all treated by surgical resection.

Key words: 1. Lung neoplasm  
2. Melanoma  
3. Neoplasm metastasis  
4. Lung surgery  

CASE REPORT

A 65-year-old man visited our hospital for hemoptysis in November 2006. He had a history of receiving brachytherapy for choroidal melanoma some 10 years previously. He underwent a chest computed tomography (CT) scan, which showed a 9.5 mm sized nodule in the superior segment of the right lower lung. Since the lesion was considered as a benign nodule, and his symptom was relieved, we decided not to undertake any form of intervention. However, a month later, he visited an urologist due to a voiding difficulty, and he was diagnosed with prostate cancer. During the staging work up for the prostate cancer, he underwent a bone scan, which revealed increased radio-uptake in the right 7th rib. At this time he also experienced a second episode of hemoptysis; described as “a cup” of blood. Chest CT scan showed an endobronchial nodule with surrounding findings of aspirated blood in the superior segment of right lower lobe. Emergent bronchoscope showed a dark pulsating mass with active bleeding, which totally occluded the superior segmental bronchus of the right lower lobe (Fig. 1). Bronchoscopic biopsy for the endobronchial mass was not attempted due to the risk of bleeding. Considering the risk of recurrent hemoptysis, we decided to perform an emergent palliative resection. Superior segmentectomy of the right lower lobe and partial resection of the right 7th rib was performed via thoracotomy. Operative findings showed a soft mass in the bronchus of diameter 1.5 cm. The tumor was confined to superior segmental bronchus of right lower lobe, and bronchial resection with enough of a safety margin, was performed. On the resected rib, two black nodules were observed, which measured up to 0.8 cm. The cut section showed a well capsulated white to gray soft nodule,
measuring 1.5×0.8 cm. It was located 0.5 cm apart from the bronchial resection margin. On the inner surface of resected rib, there were two black round smooth nodules, measuring up to 0.8×0.8 cm. The cut sections of the nodules showed soft to firm black mass, which infiltrate into the rib. Microscopic findings revealed that the pulmonary nodule was a metastatic endobronchial malignant melanoma and that nodules on the rib were also metastatic infiltrating malignant melanomas (Fig. 2). The patient’s postoperative course was uneventful and he was discharged 7 days after the operation. Integrated positron emission tomography CT (PET-CT) was performed 4 weeks postoperatively, and produced no evidence of another malignant melanoma focus. He has received interferon-alpha immunotherapy for 15 months, and taken chest CT every 2 month. Multiple small hepatic nodules were found in CT 4 months after the surgery, and sub-centimeter pulmonary nodules were found in right middle lobe and right lower lobe 16 months after surgery. There was bony metastasis of 7th cervical spine with pathologic fracture 23 months after surgery, but the patient refused further treatment.

DISCUSSION

Malignant choroidal melanoma is the most common primary intraocular cancer in adults with an incidence of 4 to 8 per million individuals per year at a median age of 55 years[1]. According to the results of a Collaborative Ocular Melanoma Study (COMS)[2], overall 5- and 10-year metastasis rates are 23~27% and 32~37%, respectively. The predominant sites of metastases are liver (89%), lung (29%), and bone (17%), whereas cutaneous melanomas predominantly metastasize to lymph nodes and the lung[3]. Endo-
bronchial metastasis (EBM) from choroidal melanoma is extremely rare, and to the best of our knowledge, this is the first reported case. When a patient with a history of malignant melanoma presents with hemoptysis, EBM should be considered in the differential diagnosis in order not to delay diagnosis. In general, treatment modalities for EBM include chemotherapy, external radiation, brachytherapy, hormonal therapy, and surgery in selected patients. The treatment of choice depends on primary tumor histology, location, number of metastases, and evidence of other metastases[4,5]. Distant metastasis is associated with a poor prognosis and death rates are 77~83% and 89~94% at 1 and 2 years following the diagnosis of metastasis, respectively[2]. In cases of choroidal melanoma, the prognosis of distant metastasis is unknown due to its rarity, but it has been reported that complete resection may increase survival rate. Hsueh et al[3] reported a good visual outcome and a median survival and 5-year survival rate of 38 months and 39% for surgical patients, versus 9 months and 0% for nonsurgical patients. In conclusion, although rare, malignant choroidal melanoma may manifest itself as EBM.

REFERENCES