

## Metastatic malignant melanoma can mimic malignant mesothelioma

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*The authors present a case of pseudomesothelioma diagnosed in a female patient seven years after radical resection of malignant melanoma of the skin. Radiological examination showed right pleural infiltration with hydrothorax with no lesions in the pulmonary parenchyma or liver and no nodal enlargement. Initial clinical diagnosis was that of malignant mesothelioma. However, the samples of the pleural infiltration obtained in the course of videothoracoscopy allowed to establish the correct diagnosis – metastatic malignant melanoma. Isolated pleural metastatic melanoma is a very rare clinical condition and may cause diagnostic difficulties, as it mimics other pleural diseases.*

**Keywords:** pseudomesothelioma, malignant pleural melanoma

### Introduction

In some cases malignant tumours may spread throughout the pleura and bear both a clinical and a radiological resemblance to malignant mesothelioma. This is especially the case with adenocarcinomas, lymphomas, thymomas and synovial sarcomas [1].

Thoracic metastases of malignant melanoma (a malignancy originating from melanocytes) have been well documented, but in such cases dissemination predominantly involves the lungs, while infiltration of the parietal pleura is associated with a continuous direct spread from the lung tumour [2].

We would like to present a case of melanoma dissemination in the form of isolated infiltration of the parietal pleura which clinically resembled mesothelioma.

### Case report

The patient, a 46 year old woman, had been admitted to the Dept. of Thoracic Surgery for invasive diagnostics due to pleural effusions in the right pleural cavity and symptoms of dyspnea, asthenia and impaired general status. The initial diagnosis was that of malignant mesothelioma. She had been previously treated at a different institution, where she had undergone repeated pleural punctures with transient improvement. Microscopic analysis of the pleural effusion did not confirm the presence of malignant cells.

The patient had been observing the symptoms for 2 months. Within that time she had lost weight (3 kg).

She had been smoking 10-20 cigarettes a day for 15 years, but had quit 5 years before. There was no history of asbestos exposure. 7 years earlier she had undergone surgical treatment. i.e. excision of malignant melanoma of the skin from the right subscapular region. The lesion had been 12 mm in diameter and less than 1 mm thick. She reported no other medical conditions. There was no relevant family history of any malignancies.

On admission clinical examination confirmed the presence of excessive effusion in right pleural cavity. Peripheral nodes, the liver and the spleen were not palpable. There were no signs of local recurrence at the site of the melanoma excision. Chest X-rays showed pleural effusion in the right pleural cavity and a thickening of the parietal pleura on the right hand side. Abdominal ultrasound revealed no abnormalities.

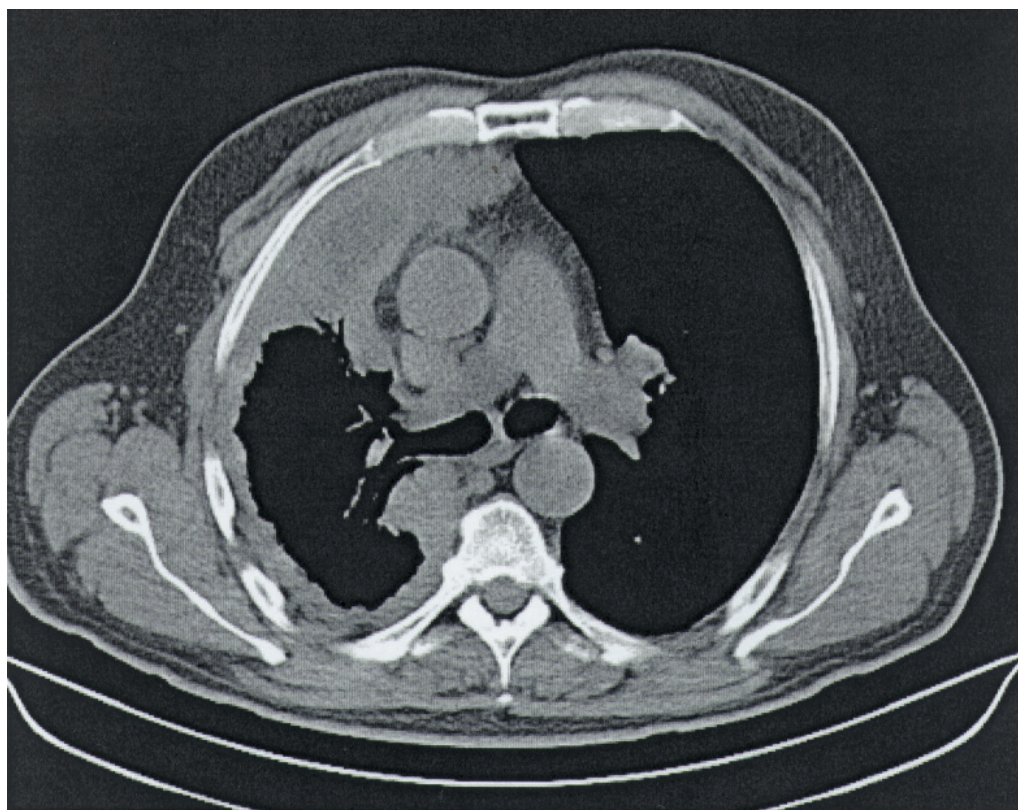
Differential diagnosis included mesothelioma, adenocarcinoma, lymphoma, primary sarcoma of the pleura, tumours of the thymus and metastatic tumours (in this case + malignant melanoma).

On the day of admission we performed a puncture of the right pleural cavity due to severe dyspnea, evacuating some 1600 ml of sanguineous fluid. Pathological examination of this specimen did not reveal the presence of any malignant cells. After this procedure the patient's clinical and the radiological status improved significantly (Figure 1).

The patient was qualified for diagnostic videothoracoscopy of the right pleural cavity. This was performed 3 days after the last puncture of the pleural cavity. The patient was ventilated artificially to the left lung. At the onset of the procedure 2100 ml of sanguineous fluid were evacuated from the right pleural cavity. On the parietal pleura, predominantly in the pleurocostal recess, we observed numerous bluish nodules, which evolved into infiltrations. No pathologic lesions were observed on the lung itself, except for some pleural adhesions. We

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**Figure 1.** CT scan of the chest showing the thickening of the pleura in the right pleural cavity

obtained a number of samples from the parietal pleura infiltrations and, together with a sample of the pleural effusion, referred them to pathology. Intraoperative pathological examination provided the result of malignant tumour, resembling of malignant melanoma. Talcum pleurodesis was performed and suction drainage was introduced and commenced.

We observed no postoperative complications; a slight fever of 38.4° C was observed only on day 1 after surgery. The amount of drained sanguinous fluid decreased gradually from 400 ml to 50 ml per day over the next days. The drainage was removed after 7 days.

Pathologic and immunohistochemical analysis of the specimens revealed: *melanoma malignum metastaticum*. Vimentin (negative), HMB 45 (positive), CK MNF 116 (negative). No malignant cells were found in the pleural effusion samples.

The patient was referred for further oncological treatment.

## Discussion

Malignant melanoma has a tendency towards early dissemination along the blood vessels, and its metastases can be found practically in any organ (although they are most common in the lungs, the liver, the brain and the bones) [2, 3]. An analysis of 130 cases of thoracic metastases of malignant melanoma has shown [2] that in 101 (77.7%) patients the tumour had metastasised to the lungs, in 8 cases to the mediastinal lymph nodes and in 3 cases melanoma cells were present in the pleural

effusion. Only in 1 case were the metastases found on the thoracic wall. In the other cases different combinations of these sites had been discerned. There was no report concerning isolated pleural effusion associated with infiltrating lesions imitating mesothelioma. The only case of isolated metastases of malignant melanoma to the pleura reported to date had been published in 2005 [4]. It is therefore a very rare entity, which can, in the course of radiologic imaging, imitate mesothelioma or lymphoma. However, due to the specific differences in the choice of treatment modality and in the prognosis careful microscopic evaluation of bioptic specimens is of utmost importance. Videothorascopy offers the possibility of obtaining adequate biopsies for pathological examination.

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