Skin metastasis from small cell lung cancer

Koichi KURISHIMA1
Katsunori KAGOHASHI1
Gen OHARA1
Kunihiro MIYAZAKI2
Mio KAWAGUCHI2
Norio TAKAYASHIKI3
Hiroaki SATOH1

1 Department of Respiratory Medicine, Mito Medical Center, Tsukuba University, Ibaraki, Japan
2 Tsukuba Universitesi Mito Tip Merkezi, Solunum Hastalıkları Anabilim Dalı, Ibaraki, Japonya
3 Department of Respiratory Medicine, Faculty of Medicine, Tsukuba University, Ibaraki, Japan

SUMMARY
Skin metastasis from small cell lung cancer

Patients with skin metastasis always had disseminated metastases in many organs. We herein report an unusual case with skin metastasis from small cell lung cancer (SCLC). The patient was treated with platinum-containing chemotherapy, and the response to the therapy was evaluated as partial response. The patient had slowly progressive disease and died of SCLC 16 months after the diagnosis of the diseases. If skin lesions, whether it may be typical or not, are found in SCLC patients, biopsy from the lesion would be considered to perform. Although trunk may be the most common sites, it is important to suspect such metastasis occurs in patients with SCLC.

Key words: Skin metastasis, small cell lung cancer

ÖZET
Küçük hücreli akciğer kanseri, cilt metastazı


Anahtar kelimeler: Cilt metastazı, küçük hücreli akciğer kanseri

Yazışma Adresi (Address for Correspondence)
Dr. Hiroaki SATOH
Tsukuba Üniversitesi Mito Tip Merkezi, iç Hastalıkları Anabilim Dalı, Miya-machi 3-2-7, Mito, 310-0015, IBARAKI - JAPAN
E-mail: hirosato@md.tsukuba.ac.jp
INTRODUCTION

Skin metastasis implies that cancer cells may reach many sites of the whole body via the bloodstream and the lymphatic system. We herein report an unusual case with skin metastasis from small cell lung cancer (SCLC).

CASE REPORT

A 66-year-old woman with a 40-pack/year history of smoking presented with skin nodule on the back and lumbar. Physical examination revealed a painless, movable and round solitary nodule of approximately 15 mm in diameter on her right back. She had knock pain on lumbar spine. Chest radiography and CT scan revealed a mass of 25 mm in diameter in right middle lobe with ipsilateral mediastinal lymph node swelling (Figure 1). Bone scan showed lumbar spinal metastases. Biopsy specimen of the skin lesion was performed. Immunohistochemical staining with thyroid transcription factor-1 and synaotophysisin were positive (Figure 2). Together with histopathological findings, the patient was diagnosed as having skin metastasis from SCLC. A transbronchial curetting cytology from the mass in right lung was done and it was confirmed same histopathological findings (Figure 3). The diagnosis of SCLC with bone and skin metastases was established. She was started on chemotherapy using carboplatin and etoposide and irradiation to the lumbar spine. The response to the chemotherapy was evaluated as partial response (Figure 4). The patient had slowly progressive disease and died of SCLC 16 months after the diagnosis of the diseases.

DISCUSSION

In the PubMed database, we found 20 cases with skin metastasis from SCLC (1-12). Among them, precise clinical courses were described in 15 cases (2-6,8-11). Table 1 showed the clinical features of SCLC.
patients with skin metastasis. Same as the other internal cancers, most common sites of the skin metastasis from SCLC are the trunk of the body such as chest and back but we found a case with arm and facial skin metastasis (1-5). Size of skin metastasis was 5-50 mm in diameter (1-5). Most of them were less than 20 mm in diameter (2,3,5,6,9-11). Various shapes were found in skin metastasis such as nodular, inflammatory, and the most lesions were firm, raised, and hemispherical, covered by an intact epidermis, while some patients had ulcerated lesions (2,3,6,8,9). In our patient, it was a painless, movable and round solitary nodule of approximately 15 mm in diameter. Upper lobe of the lung on either side was the most common primary site of SCLC (2,4,9,10). There were only four patients whose primary site of SCLC was lower lobe of the lung (2,3,6,11). There was no patient whose primary site was middle lobe of the lung as observed in our case.

Table 1. Clinical features of small cell lung cancer patients with skin metastasis

<table>
<thead>
<tr>
<th>Age</th>
<th>Gender</th>
<th>Size (mm)</th>
<th>Location</th>
<th>Primary site</th>
<th>Other metastatic sites</th>
<th>Therapy</th>
<th>Survival (months)</th>
<th>References no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>M</td>
<td>20</td>
<td>Chest</td>
<td>LUL</td>
<td>Bone</td>
<td>Chemo</td>
<td>18</td>
<td>2</td>
</tr>
<tr>
<td>47</td>
<td>F</td>
<td>20</td>
<td>Inguinal</td>
<td>RUL</td>
<td>Brain, liver</td>
<td>Chemo</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>61</td>
<td>M</td>
<td>50</td>
<td>Inguinal</td>
<td>RLL</td>
<td>Brain, liver</td>
<td>Chemo</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>56</td>
<td>M</td>
<td>30</td>
<td>Chest</td>
<td>RUL</td>
<td>Brain, liver, pancreas, lung, bone</td>
<td>Chemo</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>60</td>
<td>F</td>
<td>5-20</td>
<td>Trunk, arm</td>
<td>RLL</td>
<td>Stomach</td>
<td>SC</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>F</td>
<td></td>
<td>Chest</td>
<td>RUL</td>
<td>None</td>
<td>Chemo, irrad</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>68</td>
<td>F</td>
<td></td>
<td>Chest, arm</td>
<td>RUL</td>
<td>Liver, bone</td>
<td>Chemo, irrad</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>51</td>
<td>M</td>
<td>15</td>
<td>Neck</td>
<td>-</td>
<td>Brain</td>
<td>Irrad</td>
<td>19</td>
<td>5</td>
</tr>
<tr>
<td>82</td>
<td>M</td>
<td>5-12</td>
<td>Back, abdomen</td>
<td>-</td>
<td>Liver</td>
<td>SC</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>71</td>
<td>M</td>
<td>10</td>
<td>Face</td>
<td>RLL</td>
<td>None</td>
<td>Chemo</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>65</td>
<td>M</td>
<td></td>
<td>Face</td>
<td>-</td>
<td>Oral mucosa</td>
<td>Chemo, irrad</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>64</td>
<td>M</td>
<td>15</td>
<td>Cheek</td>
<td>LUL</td>
<td>None</td>
<td>Chemo, irrad</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>69</td>
<td>M</td>
<td>10, 10</td>
<td>Back, abdomen</td>
<td>LUL</td>
<td>Liver</td>
<td>-</td>
<td>-</td>
<td>10</td>
</tr>
<tr>
<td>62</td>
<td>M</td>
<td>30</td>
<td>Abdomen, back</td>
<td>RUL</td>
<td>Adrenal gland</td>
<td>-</td>
<td>-</td>
<td>10</td>
</tr>
<tr>
<td>59</td>
<td>M</td>
<td>30</td>
<td>Shoulder</td>
<td>LLL</td>
<td>None</td>
<td>Chemo</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>66</td>
<td>F</td>
<td>15</td>
<td>Back</td>
<td>RML</td>
<td>Bone</td>
<td>Chemo</td>
<td>16</td>
<td>Our case</td>
</tr>
</tbody>
</table>

Among the 15 SCLC patients, skin metastasis was found only one site in 12 patients (2,6,9-11). The rest of the three patients had skin metastases at two or more sites (3,5,10). Interestingly, 11 (73.3%) of the 15 patients had other metastatic sites than skin. The three of the commonest sites were liver, bone, and brain (2,4,5,10). However, four patients had skin metastasis without any metastatic sites (2,6,9,11). The explanation why distant metastasis was defined by skin lesion in these patients was beyond our knowledge. This might imply that sub-centimeter skin metastatic lesions cannot found in physical examination even cancer cells may reach many sites of the whole body via the bloodstream and the lymphatic system, or that specific mechanism may be exist to develop such a rare metastasis even the progression of the primary malignancy. In our patient, skin metastasis was found in the back, which was the most common site of skin metastasis, but it developed in only one site, and there was not found any additional skin metastasis in her clinical course.

With regard to the treatment for the skin lesion, surgical resection of the lesion and systemic chemotherapy were the common and irradiation to the skin metastasis was performed in one patient (2,4-6,8,9). In our patient, we performed surgical resection of the lesion and systemic chemotherapy, and there was no recurrence in the skin lesion. Survival time after the diagnosis of skin metastasis was short because patients with skin metastasis always had disseminated metastases in many organs. However, four of them survived more than a year, and our patient had slowly progressive disease and died 16 months after the diagnosis of skin metastasis (1-5). There may be some slowly progressive SCLC patients or some chemotherapy sensitive SCLC patients among those with skin metastasis.

As shown in Table 1, skin metastasis was found at the time of initial diagnosis of SCLC in 6 patients including our case (2,4,5,9). Skin metastasis developed 1 to 9 months after the diagnosis of SCLC during their clinical courses in 4 patients (2,4,11). Taking these results into consideration, chest physicians should recognize and be alert on the development of skin metastasis not only at the time of diagnosis and in their clinical courses, although it is very rare. If skin lesions, whether it may be typical or not, are found in SCLC patients, biopsy from the lesion would be considered to perform. It is important to suspect such metastasis occurs in patients with SCLC not only in the trunk, the most common site, but also in others sites.

CONFLICT OF INTEREST
None declared.

REFERENCES