Perianal Metastasis of Non-Small Cell Lung Cancer

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Abstract

We herein present the case of a 36-year-old woman who developed perianal metastasis of non-small cell lung cancer that was diagnosed based on the presence of symptoms mimicking a hemorrhoid. The patient initially underwent radiotherapy for a left superior sulcus tumor, then subsequently complained of a perianal mass that had prolapsed and bled. The tumor was removed via resection. Histologically, the mass was diagnosed as poorly differentiated carcinoma and considered to be a metastatic lesion arising from the primary lung cancer.

Key words: non-small cell lung cancer, metastatic cancer, perianal metastasis

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Introduction

Perianal and anal metastases originating from primary lung cancer are extremely rare, with only a few cases having been reported in the literature (1-5). We herein report the case of a 36-year-old woman who developed perianal metastasis of a non-small cell lung cancer (NSCLC) that presented with symptoms mimicking a hemorrhoid.

Case Report

A 36-year-old woman complained of left shoulder pain that had worsened over a six-month period. A left superior sulcus tumor was identified on a chest radiogram and computed tomography (CT) scan (Fig. 1A, B). The patient’s left shoulder pain became intractable, and her left arm developed numbness. Chest CT scans demonstrated a left superior sulcus tumor measuring 120×100×70 mm in size (Fig. 1B).

The patient was admitted to our hospital, and a CT-guided tumor biopsy was performed. Pathologically, the tumor was diagnosed as poorly differentiated adenocarcinoma composed of characteristic signet ring cells (Fig. 2A). However, no ALK-1 gene rearrangement was detected on a fluorescent in situ hybridization analysis and the patient was negative for the EGFR mutation. Staging investigations, including brain magnetic resonance imaging (MRI) and abdominal CT, identified stage IV NSCLC. CT scans revealed subcutaneous metastasis on the patient’s back, and she received palliative radiotherapy to the primary tumor for pain relief.

A painless perianal mass was found on the dorsal skin of the anal region at a later date. The mass showed signs of bleeding, and the patient assumed it was a hemorrhoid and thus did not seek medical attention. She experienced difficulty and a sense of unease during defecation. Within three months, the growth became malodorous and rapidly grew into a cauliflower-like tumor mass with an erosive surface that measured 90×80×45 mm in size (Fig. 3).

The tumor was removed via resection and histologically classified as poorly differentiated carcinoma consisting of large anaplastic cells with a similar morphology to that of the primary left lung cancer cells (Fig. 2A, D). An immunohistochemical examination demonstrated tumor cells positive for cytokeratin 7 (CK7) (Fig. 2B, E) and negative for cytokeratin 20 (CK20) (Fig. 2C, F), a pattern identical to the immunohistochemical expression pattern of the primary left superior sulcus tumor (Table). Based on the patient’s clinical
history, cellular morphology and immunohistochemical expression pattern, the perianal tumor was considered to reflect metastasis of the primary lung cancer. However, we were unable to determine whether the metastasis to the perianal region was hematologic or lymphatic. After surgery, the patient’s normal bowel function was restored; however, she subsequently developed multiple metastases in the brain. Her clinical course is illustrated in Fig. 4.

Discussion

This is a rare case of perianal metastasis of NSCLC. The most common metastatic sites of NSCLC are the brain, liver, lungs, bone and adrenal glands, whereas skin and gastrointestinal metastasis is relatively rare (6, 7). Furthermore, metastasis of NSCLC to the anus or perianal region is extremely rare. Only three cases of anal metastasis and two cases of perianal metastasis secondary to NSCLC have been
Figure 3. Perianal mass findings. The tumor was cauliflower-like in shape and measured 90×80×45 mm in size.

Table. Comparison of Immunohistochemical Patterns between the Left Superior Sulcus Tumor and Perianal Region Tumor

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<th>Left superior sulcus tumor</th>
<th>Perianal region tumor</th>
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<tr>
<td>CK7</td>
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<tr>
<td>CK20</td>
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<td>AE1/AE3</td>
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<td>HMB45</td>
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Figure 4. Clinical course of the patient. First, a CT-guided tumor biopsy was performed. Next, the patient received palliative radiotherapy to the primary tumor for pain relief. A painless perianal mass was detected on the dorsal skin of the anal region at a later date. Within three months, the growth became malodorous and rapidly grew into a cauliflower-like tumor mass. The tumor was removed via resection.

reported in the literature (1-5). Of these cases, two involved squamous cell carcinoma, one involved adenocarcinoma, one involved mucoepidermoid carcinoma and one involved anaplastic cell carcinoma. The mucoepidermoid carcinoma and adenocarcinoma were restricted to perianal metastasis. The most frequent mechanism underlying the metastasis of cancer cells to the anal region is cellular exfoliation of colon cancer (3). The symptoms of anal and/or perianal metastases may be nonspecific or similar to that of primary gastrointestinal malignancies. In the present case, the pa-
Patient’s symptoms were nonspecific, although they rapidly progressed with associated discomfort and hemorrhage.

The histological pattern of the resected perianal tumor matched that of the primary lung tumor, confirming that the perianal tumor was not a primary lesion.

Systemic chemotherapy is usually administered in patients with advanced NSCLC. However, patients with perianal malignancies usually present with intestinal stenosis or obstruction, which require urgent correction with surgical intervention and/or radiotherapy. In addition, surgery is often necessary to obtain a correct diagnosis and resolve the clinical manifestations (8). In this case, palliative resection permitted successful management and resulted in good control of the perianal metastasis.

In conclusion, the present case suggests that patients with a previous diagnosis of NSCLC who present with perianal masses may be misdiagnosed with hemorrhoids. However, all perianal masses should be carefully examined and monitored for the possibility of metastasis in patients with cancer.

The authors state that they have no Conflict of Interest (COI).

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References