CASE REPORT

Epidermoid carcinoma of the lung with isolated penile metastasis

Mustafa Sofikerim, MD,[1] İbrahim Gülmez, MD,[1] Fatma Tokat, MD,[2] Özlem Er, MD,[3] İnci Gülmez, MD[4]

[1]Department of Urology, Erciyes University School of Medicine, Kayseri, Turkey
[2]Department of Pathology, Erciyes University School of Medicine, Kayseri, Turkey
[3]Department of Medical Oncology, Erciyes University School of Medicine, Kayseri, Turkey
[4]Department of Pulmonary Medicine, Erciyes University School of Medicine, Kayseri, Turkey

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We report a case of epidermoid-cell carcinoma of the lung that developed a metastatic lesion in the penis. A 50-year-old male patient was admitted to our hospital with bloody sputum and cough. He had a left pneumectomy and was diagnosed with epidermoid carcinoma of the lung at stage IIB (T2N1M0). He was started on an adjuvant chemotherapy protocol consisting of cisplatin and paclitaxel. He was admitted to our urology clinic with obstructive symptoms during urination and pain during penile erection. Physical examination revealed a firm, 3 cm x 2 cm palpable mass on the radix of his penis. A fine-needle aspiration biopsy of the penile mass revealed epidermoid carcinoma that was consistent with lung cancer. The patient was considered to have penile metastasis from epidermoid carcinoma of the lung.

Key Words: epidermoid carcinoma, penile metastasis, lung cancer

Introduction

Secondary penile carcinoma is very rarely seen and has a poor prognosis. The primary lesions are mostly genitourinary or rectosigmoid primary lesions originating from the pelvis.[1] Isolated metastatic lesions of the penis from lung cancer are extremely rare. Lung cancer commonly metastasizes to regional lymph nodes, the brain, bone, the adrenal gland, and to the other lung.[2] Metastatic lesions of the penis cause various clinical symptoms and the diagnosis must be made from the results of the biopsy of the lesion to rule out other possible benign and malignant lesions.

We report the case of a 50-year-old male patient who had epidermoid carcinoma of the lung and developed a metastatic lesion in the penis 7 months after his initial diagnosis of lung cancer.

Case report

A 50-year-old male patient was admitted to our hospital with persistent cough and bloody sputum that had started 2 months earlier. A chest x-ray and computerized tomography scan of his thorax revealed

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Address correspondence to Dr. Mustafa Sofikerim, Department of Urology, Erciyes University School of Medicine, 38039, Kayseri Turkey

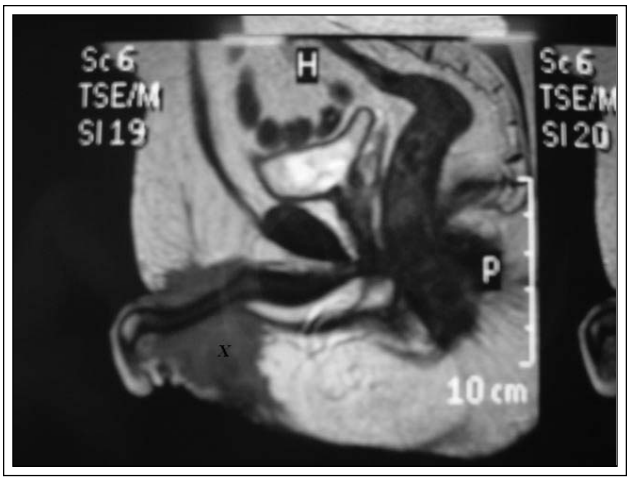

Figure 1. The magnetic resonance imaging scan showing the metastatic penile mass (asterix).

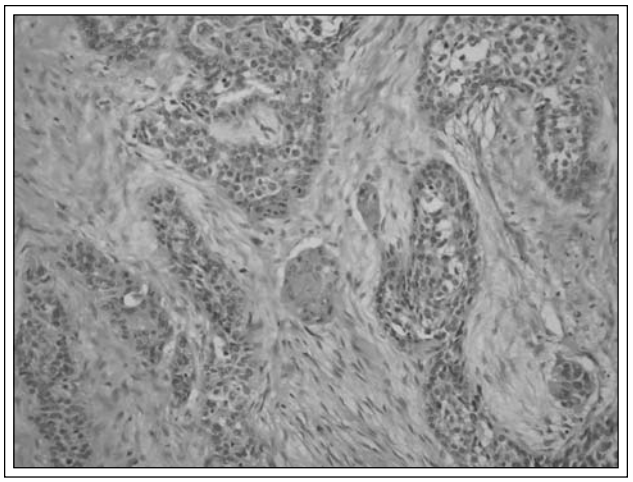

Figure 3. Epidermoid carcinoma of the lung (H&E stain, x20).

a left hilar mass. A transbronchial biopsy revealed epidermoid carcinoma of the lung. The patient underwent a left pneumectomy and was diagnosed as having epidermoid carcinoma of the lung at stage IIB (T2N1M0). He was treated with adjuvant chemotherapy consisting of cisplatin and paclitaxel. He received six cycles of chemotherapy.

He was admitted to our urology clinic with obstructive symptoms on urination and pain during erection that had started 1 month after his last dose of chemotherapy. Physical examination revealed a firm, 3 cm x 2 cm palpable mass on the base of the penis. Uroflowmetry showed an obstructive pattern of urination without residual urine. Urinalysis detected no abnormality. A magnetic resonance imaging scan showed a 40 mm x 30 mm mass encircling the proximal part of both corpus covernosum, Figure 1.

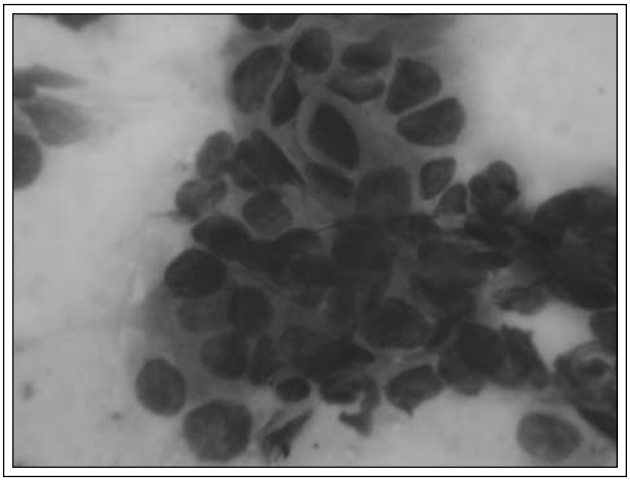

Figure 2. Hyperchromatic nuclei with blue cytoplasm (MGGxOI).

To determine if there was a penile malignancy, a fine-needle aspiration biopsy of the lesion was performed under ultrasonography. The pathologic examination of the biopsy specimen revealed epidermoid carcinoma consistent with that of previous lung carcinoma, Figure 2. Microscopic examination of the pneumectomy specimen revealed that polygonal to round tumor cells with vesicular nuclei and eosinophilic cytoplasm. Stratification, intercellular bridges, keratin formation, and keratin pearls were seen in the tumor tissue, Figure 3. The patient was considered to have penile metastasis from epidermoid carcinoma of the lung. No evidence of any other metastatic site was noted in radiologic evaluations. Second-line chemotherapy consisting of vinorelbine was started. Additionally, radiotherapy, at a total dose of 40 Gy, was given to the metastatic lesion in the penis. There was no regression in the metastatic mass. Four months after the onset of penile metastasis, the patient died of progression of the disease to the spine and brain.

Discussion

The penis is rarely affected by metastatic lesions; most metastatic lesions of the penis are from the pelvic malignancies.[1] To the best of our knowledge, only 19 cases of lung cancer with penile metastasis have been reported.[1,2] Only two of the cases were isolated penile metastases without other distant site metastases.[1,3] Most of the metastatic lesions are squamous cell carcinoma.[2] Metastasis to the penis in cases of lung cancer is very rare and is often associated with

multiple distant metastases to other organs. In most reported cases of patients with penile metastasis, the patients had distant organ metastasis and their survival after developing penile metastasis was extremely short, only a few months.[2,4]

The most frequent sign of a metastatic lesion in the penis is priapism and swelling of the penis. Penis invasion by the metastatic lesion is seen in one or both corpus cavernosum. In addition, dysuria, urinary retention, and severe pain can be seen. Treatment options for metastatic lesions in the penis are usually palliative, to provide patients with some relief from terrible symptoms. Proper management of patients with this diagnosis should include individualized treatment. Radiation therapy and surgical excision are the two treatment options.[2] Surgical treatment is usually recommended after failure of other treatment options and to cure intractable pain.[5] Radiation therapy may be considered in order to reduce the size of the lesion and to improve pain control.[2]

In addition, second-line chemotherapy treatment may be given to improve survival and quality of life in patients with advanced non-small-cell lung cancer.[6] Most recently published trials of first-line chemotherapy for patients with advanced non-small-cell lung cancer report that 30%-40% of patients will go on to receive second-line treatment.[6] Most of these patients receive a non-platinum single agent such as vinorelbine, gemcitabine, paclitaxel, irinotecan, and docetaxel depending on the first-line therapy combination.[6] The overall response rate for the second-line chemotherapy in this group of patients is mostly less than 15%, and the median survival is mostly 7 months.[7] Since there are only a small number of cases of penile metastasis from lung cancer, chemotherapy has not been employed in a sufficient number of cases to determine which treatment strategy is best.

In summary, isolated penile metastasis from lung cancer is an extremely rare phenomenon. It represents an advanced form of lung cancer, and survival is extremely short. There is no suggested treatment modality for cure of the metastatic lesion yet. □

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