Metastatic squamous cell vulvar carcinoma of the lung: a case report and review of the literature

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Summary

Recurrent squamous cell carcinoma of the vulva advances locally, spreads via the regional lymphatics and hematogenous spread is late and unusual. This is a rare case of a patient with a solitary pulmonary tumor originating from squamous cell carcinoma of the vulva. According to the literature this form of pulmonary involvement has not previously been described in cases of vulvar carcinoma in the last 20 years.

Key words: Vulvar cancer; Lung cancer; Metastasis.

Introduction

Lung metastases occur in about 30% of all patients with cancer. Depending on the primary lesion, the number of metastases may be limited and a few of these cases may be surgically curable. The most frequent sources of solitary metastatic lesions are carcinomas of the colon, kidneys, uterus and ovaries, testes, malignant melanoma, pharynx and bone [1]. Herein, we report a case of a patient with a solitary pulmonary tumor originating from squamous cell carcinoma of the vulva, ten months after the initial diagnosis, despite the fact that hematogenous spread in such cases is late and unusual. This form of pulmonary involvement has not previously been described in the literature in the last 20 years.

Case Report

A 62-year-old woman, non smoker, with diabetes mellitus type II, was referred to our institution in October 1999 with a history of labia majora lump and vulvar irritation with pruritus, local discomfort and slightly bloody discharge. Gynaecologic examination revealed carcinoma of the vulva, which was confirmed by biopsy to be a moderately differentiated squamous cell carcinoma. The patient underwent radical vulvectomy with bilateral inguinal-femoral lymphadenectomy. The pathology report confirmed that it was a "basaloid type" squamous cell vulvar carcinoma (Figure 1) with negative nodes ($T_2N_0M_0$ - Stage II). The patient was routinely followed up and remained remarkably well for ten months, when she was referred to our institution with non specific symptoms of mild cough, weight loss, anorexia and weakness. The chest X-ray revealed a peripheral mass in the right lower lobe (Figure 2). CT scan of the thorax confirmed the presence of a mass but with no N1 or N2 lymph node involvement (Figure 3). In order to perform preoperative staging of the tumor, the patient underwent CT scans of brain and upper abdomen and a bone scan. All were normal. An exploratory right posterolateral thoracotomy through the 5th intercostal space was performed and a right lower lobectomy was carried out. The postoperative period was straightforward with no problems. The pathology report showed a moderately differentiated metastatic squamous cell carcinoma consistent with the primary vulvar tumor (Figure 4). Postoperatively, the patient underwent six cycles of systemic chemotherapy with carboplatine and etoposide. She remains extremely well, one year after the operation.

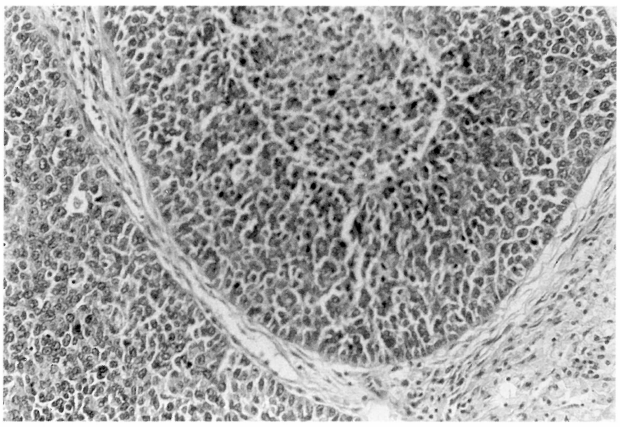

Figure 1. — Moderately differentiated "basaloid type" squamous cell carcinoma of the vulva.

Discussion

Malignant carcinoma of the vulva, comprises about 3-4% of all female primary genital malignancies. With the continued aging of the population this percentage is likely to increase. Squamous cell carcinoma is by far the most common and constitutes approximately 90% of vulvar tumors [2]. Overall 5-year survival is 70% and the most important prognostic factors are: age, dissociated tumor growth, lymphatic spread, tumor thickness and ulceration [3]. Recurrent squamous cell carcinoma of the vulva is a slowly progressive tumor that advances locally and then spreads via the regional lymphatics. Lymphatic metastases may occur early in the disease. Initially, spread is usually to the inguinal lymph nodes, which are

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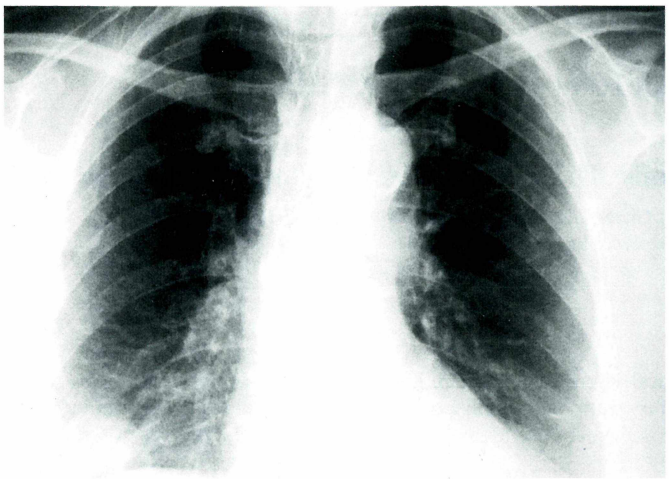

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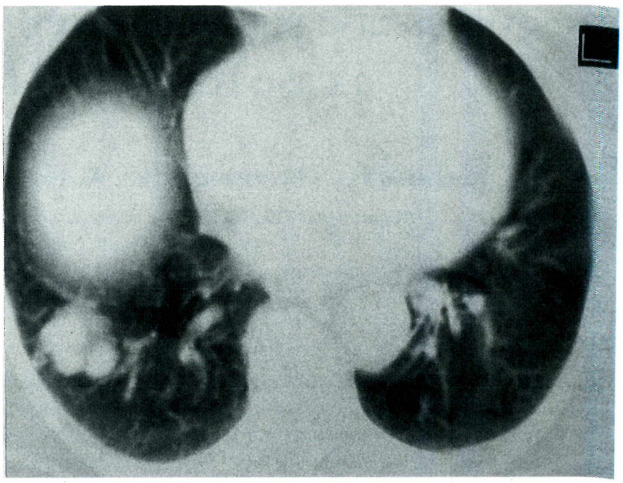

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Figure 2. — Chest X-ray showing a peripheral mass in the right lower lobe.
Figure 3. — CT scan confirming the presence of a mass in the right lower lobe.

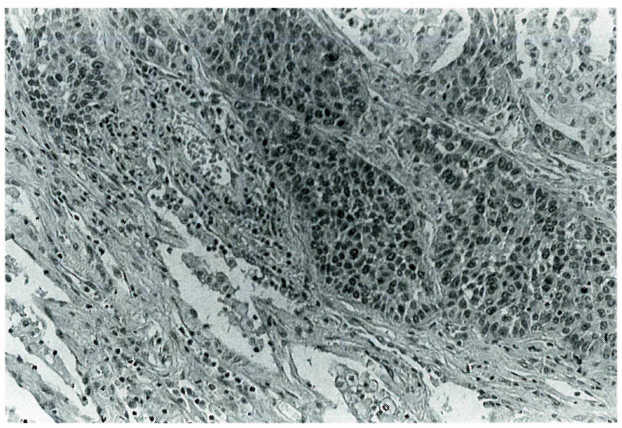

Figure 4. — Tumor histopathology consistent with metastatic squamous cell carcinoma of vulvar origin.

located between Camper's fascia and fascia lata. From these superficial groin nodes, the disease will spread to the femoral nodes. Metastases to the femoral nodes without involvement of the inguinal nodes have been reported. From the inguinal-femoral nodes, the cancer spreads to the pelvic nodes, particularly the external iliac group. About 20% of patients with positive groin nodes have positive pelvic nodes [4]. Hematogenous spread usually occurs late in the course of vulvar cancer and is very rare in the absence of lymph node metastases.

The sites of distal spread vary and it occurs in 8-12% of patients [5]. Fifty percent of patients with distal recurrence have multiple sites of recurrence, including metastases to the lung, extragenital skin, bone, liver and supraclavicular lymph nodes [6]. Until now, four types of pulmonary involve-ment have been described in patients with squamous cell vulvar cancer: a) carcinomatous lymphangitis without blood vessel invasion [7], b) carcinomatous lymphangitis in which cancer cells compress and invade small arteries and arterioles [7], c) pulmonary embolism [7], d) multiple pulmonary metastases [8]. A search of the English literature (1980-2001), revealed no prior cases of solitary pulmonary metastasis. Our patient was initially diagnosed as having a primary lung tumor which is not surprising since squamous cell cancer of the vulva has long been associated with other malignancies [9]. Although the second primaries are usually located within the genital tract, associated cancers have included leukemia and neoplasms of the skin, urinary bladder, colon and rectum, breast, stomach, parotid gland, pancreas, lung and oropharynx. The pathology report revealed the metastatic nature of the lesion. The mechanism of hematogenous spread causing a solitary pulmonary metastasis in a patient with squamous cell vulvar cancer with negative inguinal, femoral and pelvic nodes is not immediately obvious.

References

[1] Davidson R. S., Nwogu C. E., Brentjens M. J., Anderson T. M.: "The surgical management of pulmonary metastases: current concepts". *Surg. Oncol.*, 2001, *10 (1-2)*, 35.
[2] Ghurani G. B., Penolver M. A.: "An update on vulvar cancer". *Am. J. Obstet. Gynecol.*, 2001, *185 (2)*, 294.
[3] De Vita V. Jr., Hellmann S., Rosenberg A.: "Prognostic factors - Carcinoma of the vulva". Principles and Practice of Oncology 2000, 6th Edition on CD-Rom, Lippincott-Raven.
[4] Hopkins M. P., Nemunaitis-Keller J.: "Carcinoma of the Vulva". *Obstet. Gynecol. Clin. North Am.*, 2001 Dec, *28 (4)*, 791.
[5] Marsden D. E., Hacker N. F.: "Contemporary management of primary carcinoma of the vulva". *Surg. Clin. North Am.*, 2001, *81 (4)*, 799. Review
[6] Beller U., Sideri M., Maisonneuve P. *et al.*: "Carcinoma of the vulva". *J. Epidemiol. Biostat.*, 2001, *6 (1)*, 155.
[7] Soares F. A., Landell G. A., de Freitas M. M., de Oliveira J. A.: "Pulmonary tumor embolism from squamous cell carcinoma of the vulva". *Gynecol. Oncol.*, 1990, *38 (1)*, 141.
[8] Taryle D. A., Braun T. J.: "Cavitary pulmonary metastases from vulvar carcinoma". *South Med. J.*, 1979, *72 (3)*, 368.
[9] Frisch M., Melbye M.: "Risk of lung cancer in pre- and post-menopausal women with anogenital malignancies". *Int. J. Cancer*, 1995, *62 (5)*, 508.

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