Skin Metastasis of Sarcomatoid Squamous Cell Carcinoma in Vulva A Case Report

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Histopathologic results and clinical course of the sarcomatoid-type vulvar squamous cell carcinoma presenting skin metastasis which is an uncommon entity.

Patient presented a nodular lesion of 1cm diameter in right labium minus. Pathology results revealed squamous cell carcinoma. Radical vulvectomy, bilateral inguinofemoral lymphadenectomy were applied to the case. Sarcomatoid squamous cell carcinoma and metastasis in the lymph nodes. Postoperative radiotherapy was applied. The patient again presented 4 months later due to a nodular lesion in the inguinal region. Squamous cell carcinoma displaying sarcomatoid alterations in the dermis. the case was subjected to extended field radiotherapy and cisplatin chemotherapy. The patient's condition deteriorated postoperative 5th month.

Survival rate for skin metastasis of sarcomatoid squamous cell carcinoma in vulva, is found to be poor.

Key Words: Sarcomatoid type, Skin metastasis, Vulvar carcinoma

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Introduction

Vulvar carcinoma constitutes 5% of all genital tract malignancies, whereas squamous cell carcinoma accounts for 90-92% of all vulvar carcinomas.[1] The sarcomatoid variant of squamous cell carcinoma is a rare entity particularly in vulva and encountered at a frequency more than 1%.[2]

Local recurrence is known to be approximately 33% in vulvar carcinoma and 80% of the cases occur in the first two years.[1,3] Skin metastasis is observed very rarely in vulvar carcinoma cases and it is associated with positive lymph nodes.[4]

In the current study, we discussed the histopathologic results and clinical course of the sarcoid-type vulvar squamous cell carcinoma presenting with skin metastasis which is an uncommon entity.

Case Report

The 55-year-old multiparous patient who had a Type I Diabetes Mellitus, presented to our hospital with a nodular lesion of 1cm diameter in right labium minus. Excisional biopsy was performed. Pathology results revealed squamous cell carcinoma. The clinical and laboratory results of the patient were normal. Radical vulvectomy and bilateral inguinofemoral lymphadenectomy were applied to the case. Pathology showed sarcomatoid squamous cell carcinoma and metastasis in the lymph nodes. The width of the tumor was 2x1.7x0.8cm and surgical borders were negative. Four metastases were detected in the regional lymph nodes (4/20 bilateral superficial-deep inguinal). It was determined to be stage III according to the FIGO classification.

Histopathologic evaluation revealed a mildly differentiated squamous cell carcinoma in the superficial areas of the neoplasia along with single cell keratinizations and keratin pearls of various size in various layers. Tumor cells were of polygonal shape, eosinophilic cytoplasm, and had distinct nucleoli. In deeper areas of the neoplasia, spindle cells with pleomorphic hyperchromatic nuclei and focal superficial ulcerations, were detected (Fig.1 A, B).

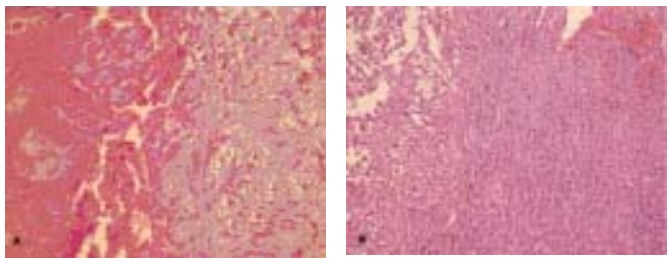

Figure 1: Microscopic picture of a sarcomatoid squamous cell carcinoma. (A) Squamous to sarcomatous component. (B) The sarcomatous component (H&E stain, x100).

In the superficial epithelium VIN I (Vulva Intraepithelial

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Neoplasm I) was detected in the areas adjacent to the tumor and VAIN I (Vaginal Intraepithelial Neoplasm I) was determined in the vaginal surgical border. Immunohistochemical staining showed that both squamous and spindle cells were immunoreactive for cytokeratin 7/20. No immunoreactivity was observed for Desmin and S-100 in all the areas. While EMA was immunoreactive for squamous areas, it was not for sarcomatoid areas. Vimentin showed immunoreactivity for sarcomatoid areas, whereas it was not immunoreactive for squamous areas (Fig.2 A,B).

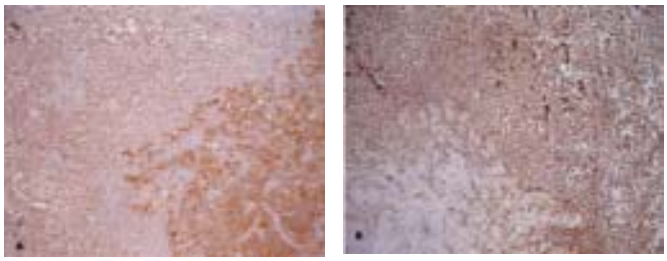

Figure 2: Microscopic picture of immunohistochemical stain (A) Cytokeratin (B) Vimentin (H&E stain, x50)

While reticulum was encircling tumor groups in the squamous areas, it was surrounding single cells in the sarcomatoid areas.

Postoperative radiotherapy was applied to the case. The patient again presented to our hospital 4 months later due to a nodular lesion in the inguinal region. In total, 12 lesions with sizes varying between 0.5-1.0cm, were determined. First, due to prediagnosis of diabetic skin lesion or viral lesion, excisional biopsy was performed. Pathology revealed squamous cell carcinoma displaying sarcomatoid alterations in the dermis (Fig.3 A, B).

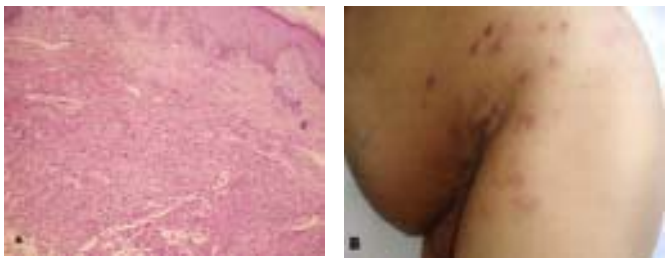

Figure 3: (A) Microscopic picture of skin metastasis. (B) Macroskopic picture of skin metastasis.

Eventually the case was subjected to extended field radiotherapy and cisplatin chemotherapy. The patient's condition deteriorated along the treatment and was lost in the postoperative 5th month.

Discussion

While vulvar carcinoma is encountered frequently in 65-75 age group, it may be seen in 15% of individuals below 40 age, as well.[1] Etiologic factors involving in vulvar carcinoma are known to be various. VIN is a premalignant lesion. HPV infection may accompany particularly the 16 and 18 subtypes.[5] Barbero et al. reported advance to vulvar carcinoma in 30 of 55 VIN cases in a period of 14-15 months.[6] Vulvar carcinoma may be observed in cases with VNED (Vulvar Non-neoplastic Epithelial Disease), as well. Lichen sclerosus may be the underlying factor for HPV-negative vulvar carcinoma. Wallace et al. reported development rate of vulvar carcinoma as 4% within a period of 12.5 years among 290 cases with Lichen sclerosus,[7] Hypertension, diabetes, and obesity are associated with vulvar carcinoma at a rate above 25%.[8]

The most common symptom of vulvar carcinoma is pruritus present for a long time. Vulvar hemorrhage, dysuria, discharge, and pain are seen more infrequently. Vulvar carcinoma mostly presents itself as a vulvar mass. The squamous cell carcinoma mostly appears in labium major unifocally, however, it may be seen as a multifocal entity in 5% of the cases, as well. Labia minora, clitoris, and perineum may be the first sites to exhibit the carcinoma.[9]

The diagnosis of vulvar carcinoma is based on biopsy. The most common histologic type is squamous cell carcinoma.[9] The histological variants of squamous cell carcinoma are verrucous, adenoid squamous, basal cell, sarcomatoid or metaplastic carcinomas.[10] Sarcomatoid carcinoma develops from joining of epithelial and mesenchymal cells with each other. Generally, the diagnosis of sarcomatoid squamous carcinoma is based on determination of overlying focus in intraepithelial neoplasia or squamous cell carcinoma. Differential diagnosis includes leiyomyosarcoma, fibrosarcoma, malignant fibrous histiocytoma, melanotic malignant melanoma, and metastatic malignant mixed mesodermal tumor.[11]

Sarcomatoid squamous cell carcinoma exhibits a development from carcinomatous component to sarcomatous component, superficial carcinomatous and deep sarcomatoid areas are seperated. In malignant mixed mesodermal tumor, carcinomatous and sarcomatoid components are present together. [12] Immunohistochemistry may be helpful in differentiation of epithelial and mesenchymal origins of sarcomatoid tumors. In mesenchymal tumors, while tumor cells demonstrate positivity for vimentin, they are negative for cytokeratin. However, sarcomas are positive for cytokeratin[11]

Diagnosis of early period (FIGO stage I-II) vulvar carcinoma is based on wide local excision/radical vulvectomy+bilateral local lymphadenectomy and radiotherapy+chemotherapy. In advanced cases (FIGO Stage III_IV), metastasis treatment comprised of radical vulvectomy+bilateral regional lymphadenectomy±radiotherapy and chemotherapy, is another option.[12]

Keys et al. observed an inguinal lymph node recurrence rate of 10.2% among cases with stage III carcinoma by apply-

ing radiotherapy only on the inguinal region. The efficiency of the singular application of chemotherapy is limited in patients with vulvar cancer. However, chemotherapy and radiotherapy combination may be more effective.[13] Berek et al. treated their 63 patients by radiotherapy+cisplatin 5-flurourasil chemotherapy and obtained a response rate of 75% in stage III cases and 50% in stage IV cases.[14] The efficiency of chemoradiotherapy may be increased by combining it with surgery. Moore et al. determined no residual disease in 97.2% of the cases they have treated with combination therapy.[15]

Treatment modality for sarcomatoid squamous cell carcinoma has not been defined yet. Choi et al. applied wide local excision/radical vulvectomy on their cases with sarcomatoid squamous cell carcinoma. They conducted adjuvant therapy only on 2 patients and the period free of disease was determined to be between 1-5 months in all the patients.[12]

Recurrence in vulvar carcinoma is generally observed locally around the primary lesion. Remote metastasis is seen in the first 2 years of the disease in 80% of cases. Recurrence rate increases with the number of metastatic lymph nodes and size of the tumor.[1] Skin metastasis in vulvar carcinoma is encountered in patients with advanced cases, and is a rare entity. Skin metastasis may be observed as a solid red dermal nodule, plaque, or inflammatory teleangiectasis lesion. The lesion may be tender, painful, or itching.[16]

Theorically, skin metastasis may be explained by 4 mechanism: direct spread, tumor implantation by way of blood or lymph vessels, direct seeding during surgery (primary-local recurrence). If vulvar carcinoma metastasis is observed in the lymph nodes which drain locally, metastasis to lungs and other organs are seen. In patients with vulvar carcinoma, lymph nodes are destructed by surgical intervention or radiotherapy or by both which leads to lymphatic obstruction followed by spreading of tumor cells via retrograd route across the soft tissue and skin.[16]

Positive inguinal lymph nodes are the most effective factor in prognosis. The other factors include: age, nuclear grade, depth of the tumoral invasion, tumor ploidy.[17,18,9] Moreover, surgical resection borders are associated with local relapse. Regardless of the surgery type (wide local excision/total radical vulvectomy), recurrence rate is elevated when it is less than 1cm.[19]

The survival rate of the disease is affected by positive results of inguinal and pelvic lymph nodes. While five-year survival rate is 98-31% for stage IV disease, it is 52.5% for cases with positive inguinal node metastasis, and 91.3% for negative inguinal node metastasis.[9] Tjalma et al. reported survival of only 1 patient for 10 months in their study consisted of 6 cases with vulvar skin metastasis, whereas the others died in several months. Choi et al. investigated survival of sarcomatoid squamous cell carcinoma among 16 cases. They found only 1 patient who lived more than 6 years whereas the others were dead in several months or years. The tumor in sarcoid squamous cell carcinoma demonstrates a very aggressive biological behavior. The advanced cases having this disease exhibit higher early recurrence and short survival rates compared to the cases experiencing the early period of the disease.[16]

In the present study, the survival rate for skin metastasis of sarcomatoid squamous cell carcinoma in vulva, is found to be poor.

Sarkomatoid Tip Vulvar Skuamoz Hücreli Karsinomun Cilt Metastazı

Vulvar karsinomun nadir görülen bir varyantı olan sarkomatid tip vulvar skuamoz hücreli karsinomda, cilt metastazı saptanan bir olgu tartışılarak sunuldu.

Sağ labium minörde 1 cm çaplı nodüler lezyon ile başvuran olguya yapılan vulvar biyopsi sonucunun skuamoz hücreli karsinom gelmesi üzerine radikal vulvektomi,bilateral inguinofemoral lenfadenektomi uygulandı. Postoperatif patoloji sonucunda sarkomatoid tip skuamoz hücreli karsinom ve lenf nodu metastazı saptanması üzerine, radyoterapi uygulanan olgu, 4 ay sonra inguinal bölgede nodüler lezyon ile hastaneye başvurdu. Eksizyonel biyopsi uygulandı. Patoloji sonucunda dermiste sarkomatoid değişimler saptanması üzerine olguya, genişletilmiş alan radyoterapisi ve sisplatin kemoterapisi uygulandı. Olgunun genel durumu postoperatif 5. ayda kötüleşti.

Sarkomatid tip vulvar skuamoz hücreli karsinomun cilt metastazı görülen olgularında survi oranları düşük bulundu.

Anahtar Kelimeler: Cilt metastazı, Sarkomatoid tip, Vulvar karsinom

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