

Popliteal nodal metastasis from squamous cell cancer of the foot. Case report and literature review

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Abstract

We report a very rare case of squamous cell cancer of the right foot which had metastasize to the ipsilateral popliteal lymph node after initial diagnosis and treatment for the loco-regional disease.

Abstract: *squamous cell cancer of the foot, popliteal node metastasis, surgery, radiotherapy*

Introduction

Skin cancer below the knee commonly metastasize to the groin lymph nodes. Metastasis to the popliteal lymph node is very rare [1]. The incidence of popliteal nodal metastasis in melanoma is from 0.3 to 7% but in squamous cell cancer the incidence is unknown but appears to be less than the figure reported for melanoma [1-3]. The treatment of popliteal lymph node metastasis is similar to the management of any other nodal basin like cervical, axillary and inguinal regions [1]. The fact is that popliteal nodal metastasis is so uncommon that many surgeons lack the experience in proper popliteal lymph node dissection so this issue is not frequently discussed in the literature [1]. The use of sentinel lymph node for detection of interval or in transit lymph node is mainly used for melanoma but is gaining wider application in the squamous cell carcinoma of the skin [4].

Case presentation

Our patient is 41 years old male Bahraini with past medical history of G6PD deficiency, eczema, bronchial asthma, epilepsy and spina bifida causing urinary incontinence and right foot deformity. He had long standing history of non-healing ulcer of the skin of the right foot started at the sole of the foot near the heel with frequent debridement and skin graft. In late 2016 it showed progression with necrotic floor extending to the lateral aspect with the lesion measuring 12 cm in diameter associated with severe pain and limitation of the movement. It was associated with enlarged right inguino-femoral lymph nodes. Biopsy from the foot ulcer and groin lymph node showed features of moderately differentiated squamous cell carcinoma. There was no history of fever, chills and rigor. In January 2017, excision of the skin lesion was attempted along with excision of lymph node mass in the right inguino femoral region, the histopathology was reported as squamous cell carcinoma, Clark level V with positive deep and lateral margins and multiple matted lymph nodes were involved (pT2N2 R1 L0 V0).

On Feb. 2017 after staging work up that showed no evidence of distant metastases; he had excision of the ulcer with inguino femoral lymph node dissection, histopathology showed primary tumor of the skin of the left foot with features of moderately

differentiated Squamous cell carcinoma and invasion of the fascia (Clark level V) with involved deep margin. One positive inguinal lymph node out of eight with no extra capsular extension and one external iliac lymph node sampled was positive for metastases. His final staging was as pT2N2bM1 (external iliac LN). His case was discussed in the MDT meeting and in view of persistent positive margin in the painful useless limb plus single lymph node metastasis in ipsilateral external iliac lymph node; the consensus was to go for below knee amputation (done Feb. 26th 2017) and radiotherapy to the inguino femoral region. He received 54 Gy in 27 fractions to left iliac, inguino femoral nodal regions using image guided VMAT technique between April 04, 2017 to May 10, 2017 with grade 2 skin toxicity. Following surgery, he is using an artificial leg prosthesis for ambulation. Follow up CT scan (July 07, 2017) showed postoperative & post radiotherapy changes with no evidence of local, regional or distant metastasis. He was under rehabilitation and follow up in the oncology department. He developed right lower limb soft tissue edema. Follow up PET CT scan (Figure 1) on Aug. 2017 showed increase FDG uptake in 2 enlarged right popliteal lymph nodes suggestive of metastases. Ultrasound guided biopsy was done and showed metastatic squamous cell carcinoma. Consequently, he underwent surgical resection of the right popliteal lymph node on November 09, 2017 which reported to be positive for metastatic squamous cell carcinoma. In view of inadequate popliteal lymph node dissection, he received external beam radiotherapy to right popliteal area (Figure 2) using 3D technique to a total dose of 60 Gy in 30 fractions which he completed between December 31, 2017 to February 08, 2018 with reasonable tolerance. Post treatment PET-CT scan ((April 09, 2018) unfortunately showed multiple new avid lesions in right external iliac (SUV max10.2) and right popliteal (SUV max 5.8) nodal deposits as well as along the muscles of the medial compartment of the right thigh (SUV max 8.8) suggestive of disease progression.

Recently he was seen in our OPD, explained him about the current status of his disease, and offered admission for pain control and MRI pelvis and right thigh for further evaluation of the intra-muscular lesions, started on pain killers waiting for his decision. Meanwhile we have referred this patient to medical oncology for their opinion regarding systemic chemotherapy and palliative care.



Figure 1. PET-CT scan showing increased uptake in right popliteal lymph nodes.



Figure 2. External beam radiotherapy field portal view.

Discussion and conclusion

Popliteal lymph node metastasis is very uncommon as per the largest series of 1118 patients with localized squamous cell carcinoma of the lower extremity treated at MD Anderson Cancer Hospital, only 16 patients (1.4%) had developed recurrence. The popliteal lymph node dissection procedure was first described by Karakousis in 1980 [1]. Since many surgeons lack the experience of popliteal lymph node dissection, this subject is infrequently reported in the literature [1]. Preoperative use of sentinel lymph node biopsy in the lower extremity tumors will allow the detection of more patients with popliteal lymph node metastasis however many of this will probably will be micro metastasis [1].

Popliteal lymph node metastasis from squamous cell cancer of the foot is quite rare. It occurs in patients with advanced or recurrent squamous cell cancer of the lower limb. Due to inadequate popliteal lymph node dissection our patient received adjuvant radiotherapy to the popliteal area region, otherwise there is no known adjuvant treatment for squamous cell cancer of skin in the absence of distant metastasis. The role of systemic chemotherapy is debatable.

References

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