

RESIDENT ROUNDS: PART III

Case Report: Metastatic Multiple Myeloma

Jeffrey F. Scott MD, Barbara Reichert MD, Miesha Merati DO, Kord Honda MD, and Kevin D. Cooper MD
Department of Dermatology, University Hospitals Case Medical Center, Cleveland, OH

ABSTRACT

We report a case of cutaneous plasmacytomas developing in a patient with a 7-month history of progressive multiple myeloma refractory to bortezomib and combination chemotherapy. When involving the skin, plasmacytomas typically arise in the setting of multiple myeloma as contiguous extensions from underlying bony disease. More rarely, cutaneous plasmacytomas develop from hematologic metastases in patients with a high systemic plasma cell tumor burden. In our patient, the presence of cutaneous plasmacytomas involving two distinct sites, and malignant plasma cells within the dermis without infiltration into the subcutaneous fat, suggest a diagnosis of metastatic multiple myeloma to the skin. Metastatic multiple myeloma to the skin portends a poor prognosis, and treatment should be aimed at the underlying systemic disease.

CASE REPORT

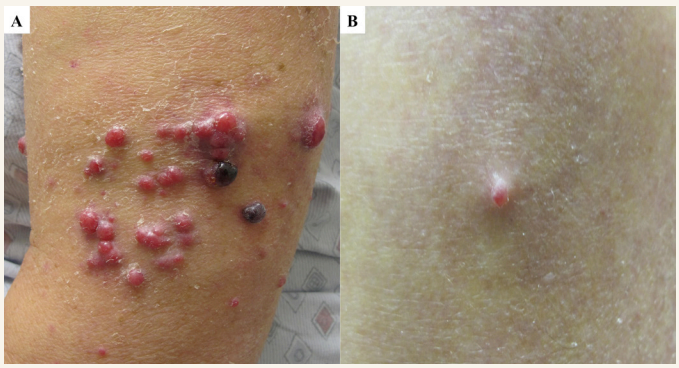
A 68-year-old woman with multiple myeloma (MM), refractory to bortezomib and combination chemotherapy, presented with a 1-week history of enlarging and tender lesions on the left arm. The patient was diagnosed with multiple myeloma seven months prior to presentation with involvement of multiple skeletal sites, including the left shoulder, spine, and pelvis. Initial pelvic bone biopsy revealed sheets of lambda light chain-restricted plasma cells.

Physical examination revealed sharply demarcated, 5 mm to 10 mm, red-to-violaceous, smooth-topped firm papules, coalescing into 1 cm to 3 cm plaques with slight peripheral scale, clustered on the left arm (Figure 1a). A solitary 5 mm red papule was identified on the right leg (Figure 1b). Skin biopsies obtained from the left arm and right leg both revealed atypical epithelioid cells with prominent nucleoli and numerous mitotic figures, which stained strongly with antibodies against CD138 and lambda light chain, but did not stain with antibodies against kappa light chain (Figure 2a-2e), establishing the diagnosis of cutaneous plasmacytomas.

DISCUSSION

Plasma cell tumors involving soft tissue or the axial skeleton are referred to as plasmacytomas.[1] The International Myeloma Working Group classified plasmacytomas into solitary plasmacytomas of bone, extramedullary plasmacytomas, and multiple plasmacytomas, which can be either primary or secondary depending on the absence or presence of systemic plasma cell disease, respectively.[2-4] Secondary cutaneous plasmacytomas, including those observed in the setting of MM, most commonly arise from contiguous extension from an underlying focus of bony disease, or more rarely, from hematologic metastases to the skin.[5] In our patient with MM, the presence of cutaneous plasmacytomas involving 2 distinct sites, and malignant plasma cells within the dermis without infiltration into the subcutaneous fat, suggest a diagnosis of metastatic MM to the skin.[4]

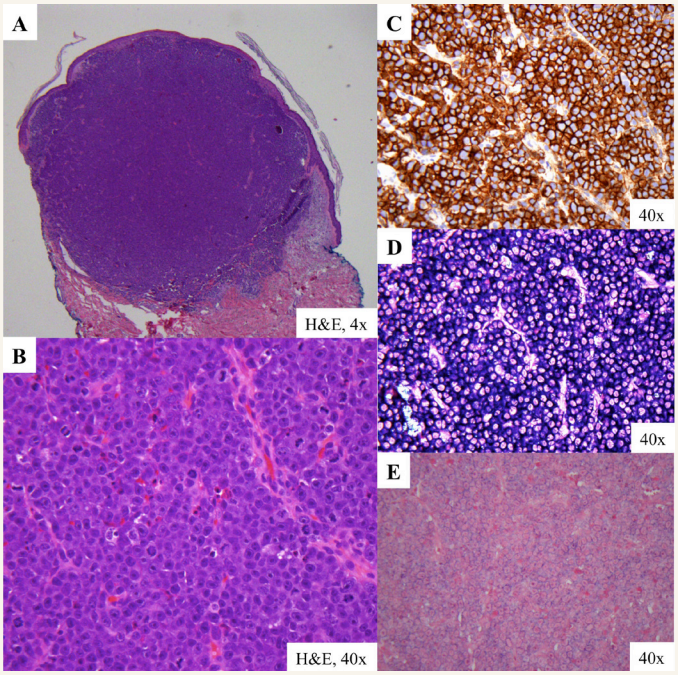
FIGURE 1. Metastatic multiple myeloma presenting as red-to-violaceous, smooth topped papules coalescing into plaques on the left arm (A), and a solitary red papule on the right leg (B).



CONCLUSION

Multiple myeloma metastases are typically seen in cases with high systemic plasma cell tumor burden, and portend a very poor prognosis with death occuring most often within 1 year of diagnosis.[5-8] Treatment is generally targeted at the underlying systemic

FIGURE 2. Punch biopsy of a representative red papule on the left arm revealed a well-circumscribed, dense collection of atypical epithelioid cells with prominent nucleoli and numerous mitotic figures in the dermis (A, B). The atypical epithelioid cells were CD138 positive (DAB+) (C), and lambda light chain restricted (NBT+) (D), with negative staining for the kappa light chain (NBT-) (E).



disease, and patients with metastatic MM should be thoroughly evaluated for progression of disease.[8] Our patient was started on lenalidomide and dexamethasone, and palliative external beam radiation was administered to the cutaneous lesions.

DISCLOSURES

The authors have no conflicts of interest to declare.

REFERENCES

1. Patterson JW, Parsons JM, White RM, Fitzpatrick JE, Kohout-Dutz E. Cutaneous involvement of multiple myeloma and extramedullary plasmacytoma. *J Am Acad Dermatol.* 1988;19:879-890.
2. International Myeloma Working Group. Criteria for the classification of monoclonal gammopathies, multiple myeloma and related disorders: a report of the International Myeloma Working Group. *Br J Haematol.* 2003;121(5):749-757.
3. Bayer-Garner IB, Smoller BR. The spectrum of cutaneous disease in multiple myeloma. *J Am Acad Dermatol.* 2003;48(4):497-507.
4. Karimkhani C, Smith C. Extraosseous extension of multiple myeloma: a cutaneous herald to systemic disease. *J Am Acad Dermatol.* 2014;71(3):e73-e74.
5. Kubica AW, Wetter DA, Lehman JS. Cutaneous involvement by multiple myeloma. *Am J Hematol.* 2014;89(10):1014-1015.
6. Alberts DS, Lynch P. Cutaneous plasmacytomas in myeloma. Relationship to tumor cell burden. *Arch Dermatol.* 1978;114(12):1784-1787.
7. Ballester-Martínez MA1, González-García C, Fleta-Asín B, et al. Cutaneous nodules as a diagnostic clue in multiple myeloma. *Am J Dermatopathol.* 2013;35(3):377-380.
8. Comfere NI, Gonzalez Santiago TM, Peters MS, Knudson RA, Ketterling RP, Gibson LE. Cutaneous extramedullary plasmacytoma: clinical, prognostic, and interphase cytogenetic analysis. *Am J Dermatopathol.* 2013;35(3):357-363.

AUTHOR CORRESPONDENCE

Jeffrey Scott MD
E-mail:..... jeffrey.scott@uhhospitals.org