# Cutaneous Recurrence of Extramedullary Multiple Myeloma within Surgical Scar Tissue

**Farhana Ratree BS[1], Kevin G. West, MD[2], Michael D. Dullea, MD[3], Avinash R. Chaurasia MD[3]**
[1]Lake Erie College of Osteopathic Medicine, Erie, Pennsylvania [2]Department of Radiology, Brooke Army Medical Center, San Antonio, Texas
[3]Department of Radiation Oncology, Brooke Army Medical Center, San Antonio, Texas

## Background

- Multiple myeloma (MM) is a plasma cell malignancy that primarily involves the bone marrow, and can cause systemic end-organ damage.
- Clonal plasma cells can proliferate outside the marrow, resulting in extramedullary disease[1].
- Cutaneous scar-site involvement is exceptionally uncommon, with only several cases reported in current literature[2–6].
- We discuss extramedullary relapse of MM at a prior posterior spinal instrumentation fusion (PSIF) scar, with paraspinal and intradural extension, but without bone marrow involvement.

## Objective

Describe the clinical presentation, proposed disease mechanisms, and approaches to evaluation and management of extramedullary relapse of multiple myeloma in the case presented in this poster.

**CE CODE: 9B7L15**

## Case Presentation

- Prior to presentation, the patient had undergone induction chemotherapy with daratumumab, lenalidomide, bortezomib, and dexamethasone (Dara-RVd), autologous stem cell transplant, and been on maintenance daratumumab plus lenalidomide (Dara-Len), without evidence of disease for one year.
- He presented with new painful cutaneous lesions within his PSIF scar (figure 1).
- He underwent an MRI that showcased a lobulated paraspinal soft tissue mass (figures 2 &3).
- PET/CT (figure 4) and skin/bone marrow shows recurrence of MM without marrow involvement.
- He transitioned to bortezomib-thalidomide-dexamethasone-cisplatin-doxorubicin-cyclophosphamide-etoposide (VTD-PACE) therapy with negative further imaging (figure 5), and no clinical symptoms for one year afterwards.

## Discussion

- Only a few cases have been described in literature regarding cutaneous recurrence of MM that is localized to scar tissue from prior procedures[2–6].
- Speculated mechanisms of action include permissive environment for tumor growth in scar tissue, altered immune response, chronic inflammation, and direct tumor-cell seeding[1–6].
- Generally, this manifestation has indicated a poor prognosis[1].
- Our patient had a positive response for up to one year with aggressive treatment.



**Figure 1**

Image of the patients back upon initial presentation.

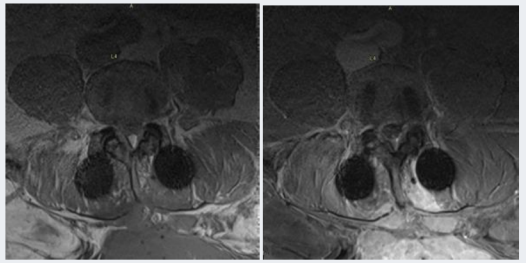


**Figure 2 (left) and Figure 3 (right)**

Axial T2 weighted MRI of the lumbar spine in the pre-contrast (Figure 2) and post-contrast (Figure 3) state. There is a T2 isointense lesion within the cutaneous and subcutaneous tissue that extends into the paraspinal musculature with enhancement.

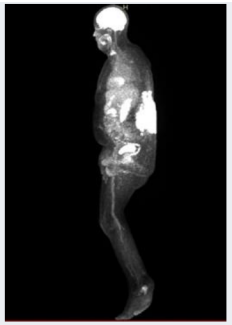


**Figure 4**

PET MIP of the patient upon initial presentation.

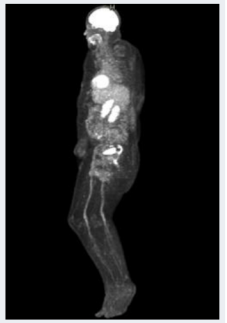


**Figure 5**

PET MIP of the patient post-VTD-PACE treatment.

## Conclusion

- MM has the potential for a rare manifestation of cutaneous recurrence in scar tissue.
- While typically associated with a poor outcome, early aggressive treatment could establish disease control.
- Clinicians should consider this diagnosis in patient with a history of MM and new lesions localized to scar tissue.

## Reference(s)

1. Bladé J, Beksac M, Caers J, et al. Extramedullary disease in multiple myeloma: a systematic literature review. Blood Cancer J. 2022;12(1):45. doi:10.1038/s41408-022-00643-3.
2. Carmel B, Delost GR, Stern J, Honda K. Cutaneous plasmacytoma: metastasis of multiple myeloma and invasion of sternotomy scar. JAAD Case Rep. 2019;5(1):94-7. doi:10.1016/j.jdcr.2018.10.020.
3. Noonan K, Rome S, Fairman B. A focus on relapsed multiple myeloma. J Adv Pract Oncol. 2022;13(Suppl 4):15-21. doi:10.6004/jadpro.2022.13.5.11. PMID:35937465; PMCID:PMC9342923.
4. Cheong D, Ng JL, Delaney TA. Cutaneous involvement by multiple myeloma presenting as erythematous indurated plaques at the site of cardiac pacemaker insertion. JAAD Case Rep. 2021;12:54-7. doi:10.1016/j.jdcr.2021.04.013.
5. Yoo J, Jo M, Kim MS, Jue MS, Park HJ, Choi KH. Cutaneous plasmacytoma: metastasis of multiple myeloma at the fracture site. Ann Dermatol. 2017;29(4):483-6. doi:10.5021/ad.2017.29.4.483.
6. Hefelfinger DC, Sareini MA, Moore DD. Extramedullary relapse of multiple myeloma after total knee arthroplasty: implications for orthopaedic surgeons--a case report and literature review. Arthroplast Today. 2025;35:101834.

## Disclosure

The views expressed in this poster are those of the authors and do not necessarily reflect the official policy or position of the Defense Health Agency, the Department of War, nor any agencies under the U.S. Government. There are no relevant conflicts of interest to disclose for this research presentation for the following planners and reviewers of this CE activity: Kevin West, MD, Michael Dullea, MD, Avinash Chaurasia, MD, Farhana Ratree, BS, Tahsin Imam, PharmD, Daisy Doan, PharmD