



An Uncommon Clue to the Diagnosis of Multiple Myeloma

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LEARNING OBJECTIVE

OBJECTIVE: Recognize the characteristic skin lesions of follicular spicules as a rare but highly specific manifestation of multiple myeloma.

CASE PRESENTATION

HPI

An **87-year-old female** with no significant medical history presented with several months of progressive back pain and difficulty ambulating. Her family members had also noticed an evolving rash on her face, chest, and back. She had mild dyspnea but denied fevers, chills, unusual fatigue, or unintentional weight loss.

EXAM

Vitals: Afebrile, normotensive, normal heart rate. Mildly hypoxic on room air, improved with 2L O2 by NC
Cardiac and Pulmonary Exam: unremarkable
Abdominal Exam: unremarkable
Musculoskeletal Exam: + midline tenderness to palpation in lumbar region
Neurologic Exam: motor exam significantly limited by pain. Reflexes normal; no sensory deficits.
Skin Exam: numerous follicular and papular lesions, some resembling frost, covering both sides of the face, upper back, and chest.

LABS & IMAGING

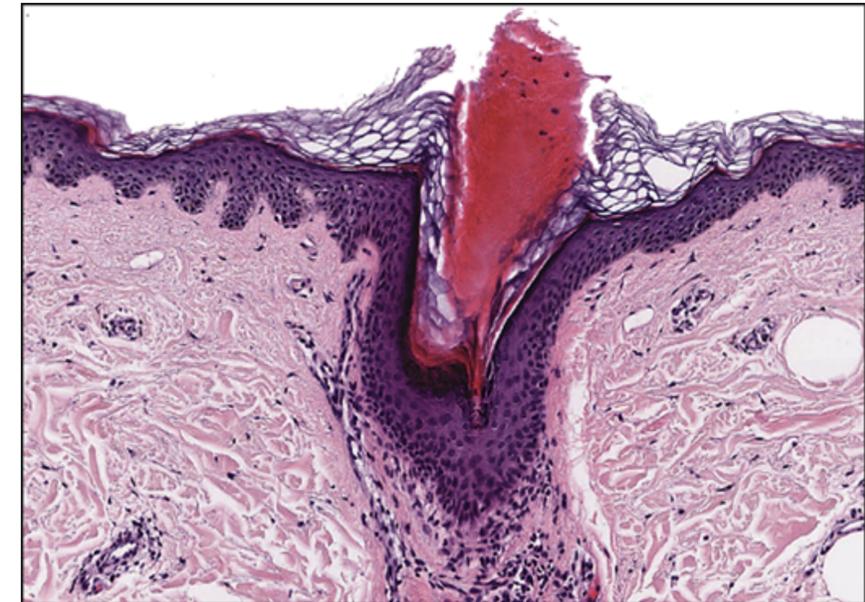
Hgb: 10.5 g/dL [ref 8.6-10.3]
Serum Cr: 0.71 mg/dL [ref 0.6-1.2]
Albumin: 2.3 g/dL [ref 3.5-5.7]
Calcium (corrected): 10.3 mg/dL [ref 8.6-10.3]
Total Protein: 10.8 g/dL [ref 6.4-8.9]
Protein Gap: 8.5 g/dL [ref <4]
SPEP, UPEP: positive for monoclonal IgG spike
Skin Biopsy: hair follicles plugged with keratin and eosinophilic material
CT L-spine: severe compression fracture of L1-2 without evidence of cord compression

CLINICAL COURSE

- Whole body PET-CT scan revealed no suspicious FDG uptake. The inpatient Oncology/BMT team was consulted.
- A bone marrow biopsy revealed abnormal CD19-negative, CD45-positive, CD56 positive plasma cells with kappa light chain restriction. This confirmed the diagnosis of multiple myeloma (MM).
- The patient underwent IR-guided kyphoplasty of her vertebral fractures, with improvement in pain. She was discharged to the care of her family. The patient and family's wishes regarding treatment of MM remained uncertain.
- One week later, the patient presented to the emergency department with altered mental status and was found to have hypercalcemia (corrected serum calcium: 13.7 mg/dL).
- After several discussions involving the medical team and the patient and family, the patient was ultimately discharged to inpatient hospice. She died peacefully 23 days after initial presentation.

DISCUSSION

- A number of malignancies may present with skin manifestations, either due to direct tumor infiltration or paraneoplastic immune phenomena. However, skin involvement is uncommon in multiple myeloma (MM).
- Follicular spicules is a rare cutaneous manifestation of MM; approximately 10 total case reports have been published.
- Lesions result from deposition of abnormal monoclonal protein in follicular epithelium.



Skin biopsy from a patient with MM and follicular spicules (1).

- The lesions are characteristically located on the face.
- The differential diagnosis includes trichodysplasia spinulosa, a polyomavirus-associated condition seen in HIV-positive patients.
- Biopsy typically reveals intercellular deposits of eosinophilic material in follicular epithelium. Immunofluorescence, if performed, will indicate the presence of immunoglobulin.

CONCLUSIONS

- Our patient presented with an acute vertebral compression fracture, which could have been attributed to osteoporosis.
- The unusual skin lesions were recognized as characteristic of follicular spicules, which significantly increased suspicion for MM and led to appropriate workup.
- Classic manifestations of MM such as hypercalcemia, renal failure, and osteolytic lesions were initially absent, though hypercalcemia did develop within two weeks.
- **New skin lesions may be valuable to internists in the diagnosis of occult malignancy, especially in older patients.**

References

1. Hosler GA, Weibel L, Wang RC. Comment and Response: The Cause of Follicular Spicules in Multiple Myeloma. *JAMA Dermatol.* 2015;151(4):457-458.
2. Weibel L, Berger M, Regenass S. Follicular Spicules of the Nose and Ears — Quiz Case. *Arch Dermatol.* 2009;145(4):479-484.
3. Satta R, Casu G, Dore F *et al.* Follicular spicules and multiple ulcers: cutaneous manifestations of multiple myeloma. *J Am Acad Dermatol.* 2003 Oct;49(4):736-40.



Characteristic lesions of follicular spicules observed on our patient's face.



Additional papular lesions on our patient's trunk and back.



Acute L1-L2 vertebral compression fractures.