Vertebral Sarcoidosis Presenting as Herniated Disk Disease Refractory to Epidural Steroid Treatment

Dhwani Pandya MD
Lehigh Valley Health Network, Dhwani.Pandya@lvhn.org

Michael Kalil DO
Lehigh Valley Health Network, Michael.Kalil@lvhn.org

Stacey Smith MD
Lehigh Valley Health Network, Stacey_J.Smith@lvhn.org

Published In/Presented At

Pandya, D., Kalil, M., Smith, S. (2015, March 13). *Vertebral Sarcoidosis Presenting as Herniated Disk Disease Refractory to Epidural Steroid Treatment.* Poster presented at: Society of General Internal Medicine-Mid-Atlantic Region, Hershey, PA.

Vertebral Sarcoidosis Presenting as Herniated Disk Disease Refractory to Epidural Steroid Treatment

Dhwani Y. Pandya, MD, Michael A. Kalil, DO, and Stacey Smith, MD

Department of Medicine, Lehigh Valley Health Network, Allentown, Pennsylvania

Background

- Sarcoidosis is a multi-system granulomatous disease of unknown etiology characterized by pathologic diagnosis of non-caseating granulomas, presenting initially with bilateral hilar lymphadenopathy, pulmonary reticular opacities with extra-pulmonary manifestations most commonly involving the skin, joint and/or eye lesions. While usually presenting between 20 to 60 years of age, in nearly 50% of cases, the disease is diagnosed incidentally upon finding radiographic abnormalities during routine imaging.
- While presentation with pulmonary findings is common and routinely seen, up to 30% of patients present with manifestation of extra-thoracic sarcoidosis. (Table 1)[1]

Case Presentation

- A 49 year old Caucasian female presents with **back pain** secondary to **multilevel lumbar disc disease** that started more than five years ago, attributing to lifting boxes at her local warehouse.
- However, the **pain persisted** for more than two years despite leaving her job and **receiving lumbar epidural injections.** She felt a "locking" sensation with the pain, waking her up from sleep with the pain worsening throughout the day. She denied any numbness, incontinence, weight loss or night sweats along with any history of malignancy.
- On physical exam, there was no deformity or scoliosis visualized with no erythema or skin changes. However, further examination **showed limited spinal flexion and extension** at 30-50 degrees with minimal to none spinal and paraspinal tenderness; when asked to lay supine with knees extended, she reverted to a flexed knee position with a negative straight leg raised test.
- Given concern for **symptoms refractory of epidural treatment,** reimaging with an MRI was obtained, which confirmed multidisc disease, however, **new, sclerotic lesions** consistent with metastatic disease were found.
- A subsequent **biopsy of an L1 lesion** was **consistent with sarcoidosis** with subsequent imaging of her chest showing hilar mediastinal lymphadenopathy and perihilar nodularity along with sclerotic osseous lesions as previously seen.

Table 1: Extra-Thoracic Manifestation of Sarcoidosis[1]

Skin – Lupus Pernio, Annular Lesion, Erythema Nodosum
Eyes – Lacrimal Gland Swelling, Optic Neuritis, Uveitis
Neurologic – Bell's Palsy, Diabetes Insipidus
Cardiac – Restrictive Cardiomyopathy, Intraventricular Conduction Defect; Nodal Block
Parotid & Salivary Glands – Symmetrical Parotitis
Bone – Lytic, Sclerotic, Cystic Lesions
Bone Marrow – Unexplained Anemia, Leukopenia, Thrombocytopenia
Muscles – Myopathy
Vasculitis
Joint – Lofgren's Syndrome, Effusions, Synovitis

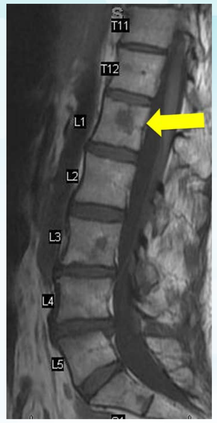

Image 1: MRI L-Spine without contrast shows multi-level Lumbar lesions, with most prominent lesion in L1 (arrow).

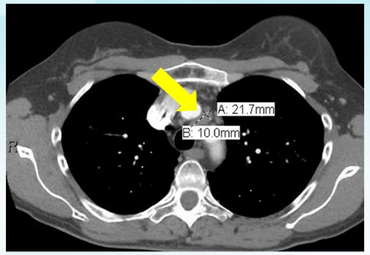

Image 2: CT of Chest displays multiple levels of hilar lymphadenopathy, with the arrow pointing towards an enlarged node reflective of patient's diagnosis.

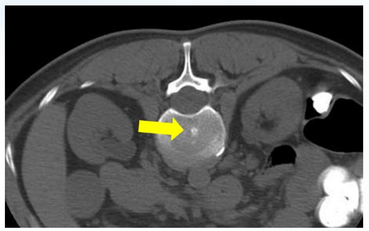

Image 3: CT guided biopsy of the L1 spine shows the ill-defined sclerotic lesion which displayed the non-caseating granulomatous disease consistent with Sarcoidosis.

REFERENCES:

1. Judson, MA, RP Baughman, AS. Teirstein, ML Terrin, and H Yeager, Jr. 1999. Defining organ involvement in sarcoidosis: the ACCESS proposed instrument. ACCESS Research Group. A Case Control Etiologic Study of Sarcoidosis. Sarcoidosis, Vasculitis, and Diffuse Lung Diseases 16:75-86.
2. James DG, Neville E, Carstairs LS. Bone and joint sarcoidosis. Semin Arthritis Rheum 1976; 6:53.
3. Chang JC, Sakurai H, Jagirdar J. Symptomatic rib lesions as the primary presentation of sarcoidosis. Report of two cases and review of literature. Sarcoidosis 1992; 9:130.
4. De Bardt M, Grossin M, Smadja M, Kahn MF. Vertebral osteosclerotic sarcoidosis. AJR Am J Roentgenol 1991; 157:1356.
5. Clarençon F, Silbermann-Hoffman O, Lebreton C, et al. Diffuse spine involvement in sarcoidosis with sternal lytic lesions: two case reports. Spine (Phila Pa 1976) 2007; 32:E594.
6. Islam, S. U., Campagna, A. C., Baker, R., Dellaripa, P., Sharma, O. P. Magnetic Resonance Imaging resolution of vertebral sarcoidosis with hydroxchloroquine and prednisone. CHEST Journal 2003;124(4_MeetingAbstracts):249S-a-249S.
7. Wilcox A, Bhardawaj P, Sharma OP, Bone sarcoidosis.Curr Opin Rheum.2000;12:321–330.

Discussion

- Sarcoidosis is a multisystem disease that is noted pathologically with the presence of non caseating granulomas, most prominently affecting young females, African Americans more dominantly with bilateral hilar lymphadenopathy, pulmonary infiltrates with cutaneous or ocular lesions.[2]
- While manifestation with a a musculoskeletal involvement is common, noted in 50-80% of those with this disease, it is very uncommon to have symptomatic manifestation.[3] Bone involvement in sarcoidosis is seen in nearly 5% of cases, with vertebrae involvement exceptionally rare, noted to be <1% in extrapulmonary manifestation.
- In these situations, lesions are commonly cystic in appearance with multiple bone cystic lesions described as "lacy pattern", pathognomonic for sarcoid bone disease. However, in our case, the bone lesions were sclerotic, which is even more rare.[4,5] Diagnosis of extrapulmonary sarcoidosis is made in the context of specific organ system involvement and any other systemic complaints or previously known diagnosis of the disease.
- In our patient, a biopsy was essential for diagnosis, as there was a higher concern for malignancy given multiple sclerotic bone lesions, however once a histopathological diagnosis was made of sarcoidosis, pan scans of the chest, abdomen and pelvis were obtained to rule out other organ involvement, which subsequently exhibited classic hilar lymphadenopathy and perihilar nodularity.
- Our patient is being treated with a pain control regimen alongwith systemic therapy of Prednisone along with Hydroxychloroquine with evidence support for such treatment for bone sarcoid.[6,7]

Conclusion

- Bone Sarcoidosis is an uncommon and relatively unusual presentation of Sarcoidosis. It's pathological manifestation may imitate other diffuse diseases, most prominently metastatic disease or infectious disease to the bone, as evident in our patient. However, clinical suspicion along-with histopathological diagnosis can clarify diagnosis. This should be included in the differential in patients without history of malignancy or systemic infection along-with those, like our patients who present with persistent pain despite being treated for other presumptive diagnosis, such as disk disease treated with epidural steroid injections. Treatment of bone sarcoid should be addressed with prednisone and hydroxycloroquine with consideration of imaging to assess state of disease.