

# ENDOCARDITIS LEADING TO VERTEBRAL DISCITIS MASQUERADE AS ACUTE REFRACTORY LOW BACK PAIN

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## HISTORY

- 70 year-old male with past medical history of poorly controlled DM2 presented to the ED for acute severe back pain of 4 days' duration that awoke him from sleep
- Pain described as band-like across his lower back; worse with movement, better with rest, no inciting event
- No vital sign abnormalities nor neurological deficits. Physical exam notable for grade III/VI systolic murmur
- Initial labs revealed a mild leukocytosis (12,000) and mildly elevated ESR (52)
- Initial thoracic and lumbar spine MRI was read as only notable for neuroforaminal stenosis at left L5-S1 region
- TTE showed mild mitral regurgitation
- Admitted to acute care for multimodal pain control
- EMG was performed to rule out diabetic amyotrophy, which did not show evidence for this nor a radiculopathy
- Discharged to our inpatient rehabilitation hospital

## CLINICAL & REHABILITATION COURSE

- At IPR, pain became a limiting factor in therapy
- Upon our independent review of patient's MRI, it was felt to have demonstrated signal enhancement in L5-S1 disc and concomitant Type 1 Modic changes that were initially read as degenerative disc disease
- Infectious workup revealed elevated ESR (79), CRP (144) and positive blood cultures (*Abiotrophia defectiva*)
- Repeat MRI showed increased edema and endplate erosion at L5-S1 consistent with discitis and osteomyelitis
- Patient was treated with prolonged course of intravenous antibiotics resulting in complete resolution of his pain
- Transesophageal echocardiogram revealed mitral valve vegetations, ultimately requiring valve replacement

## VERTEBRAL DISCITIS & OSTEOMYELITIS

- Primarily a disease of adults age > 50
- Main symptom is pain localized to infected disc space area, exacerbated by physical activity and percussion
- Characterized by elevated inflammatory markers (WBC, ESR, CRP); Fever is actually an inconsistent finding
- Most commonly occurs as a result of hematogenous seeding from a distant source and thus blood cultures are often positive for causative organism
- Diagnosis is confirmed with advanced imaging findings (usually increased disc signal intensity on T2-MRI) and positive blood cultures
- Definitive treatment is usually IV antibiotics aimed at eliminating the causative organism



Image 1: Initial MRI showing signal enhancement in the L5-S1 disc with Type 1 Modic changes concerning for possible discitis osteomyelitis



Image 2: Subsequent repeat MRI showing increased edema and endplate erosion at L5-S1 consistent with discitis osteomyelitis

## CONCLUSIONS

- For patients presenting with severe out-of-proportion back pain without obvious etiology, discitis should be considered, even in the absence of systemic infectious signs/symptoms such as fever
- It should especially be considered when a heart murmur is present, clueing into a diagnosis of infective endocarditis

## REFERENCES

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