

VIGNETTE 6

Back Pain is Not Always Dull – A 71-Year-Old Male with Spondylodiscitis due to *Streptococcus intermedius*

Learning Objectives:

1. Appreciate the importance of screening for serious causes of back pain.
2. Recall the “red flag symptoms” of back pain that suggest severe underlying diseases.
3. Recognize spondylodiscitis as a potential rare etiology for subacute back pain and its characteristics.

Case: A 71 year-old white male with a history of schizophrenia, hypertension, and chronic back pain due to chronic disc herniation presented to his primary care physician with progressive back pain. His back pain began to worsen from baseline 3 weeks prior prompting him to go the ER on two occasions during the previous month, but was sent home on both occasions with pain management. At his PCP visit, his pain was located in lower back, hips and upper legs. The pain was exacerbated by sitting and improved by lying down. Over the three days prior to this PCP visit, the patient developed loss of bowel continence. The patient had had no fevers, chills, or weight loss. The PCP checked a BMP and CBC revealing a platelet count of 747K and anemia but no other abnormalities. An MRI without contrast was obtained revealing multilevel disc herniations from L3-S1 with both central and foraminal stenosis along with destructive changes of L5 and S1 with paraspinal soft tissue swelling worrisome for malignancy versus infection. Malignancy work-up was begun at the outside facility, which was unrevealing, so he was transferred to the VA in Birmingham for a vertebral biopsy. The patient had already begun corticosteroid therapy for his neurological symptoms prior to his arrival. On arrival, his examination revealed normal strength and sensation in lower extremities, but mildly reduced rectal tone. The CBC revealed anemia but normal WBC count and the ESR was 4. Blood cultures were negative. Repeat MRI with contrast revealed spondylodiscitis of L5 and S1. A CT guided biopsy confirmed discitis with tissues cultures positive for *Streptococcus intermedius* (Viridans group). Corticosteroids were discontinued. The patient was begun on ceftriaxone for 6 weeks and physical therapy. Upon questioning for risk factors for his condition, it was revealed that he had had a dental procedure six months prior.

Discussion: Acute low back pain is typically defined as lasting less than three to six weeks. While back pain is most commonly of benign etiology, it is important to recognize symptoms and signs that indicate potential underlying systemic disease such as infection, malignancy, or autoimmune process or severe structural abnormality such as fracture or cauda equina syndrome. These symptoms and signs include weight loss, fevers, chills, advanced age, recent trauma, history of malignancy, duration more than 6 weeks, or neurological deficits. Any of these findings should prompt additional work-up including lab work and appropriate imaging.

Spondylodiscitis, the diagnosis in this case, is a rare etiology of back pain in adults in the absence of recent surgeries or documented bacteremia. It has been described most often as developing spontaneously in children or in adults via post surgical manipulation. Bacteremia can cause discitis through infection of the highly vascular cartilaginous vertebral endplate that subsequently affects the adjacent avascular disc with the most common organism identified being *Staphylococcus aureus*. The disc is at greater risk for becoming infected if there is underlying structural disease such as that seen in osteoarthritis. In general, the presentation is often subacute as patients are less systemically ill than those with osteomyelitis. In discitis, radiological changes are confined to the disc and adjacent vertebral end plates, in comparison to osteomyelitis, in which the disease begins in and destroys the vertebral body. Treatment involves several weeks of intravenous antibiotics while using the ESR to monitor response.