Introduction: The vertebral osteomyelitis can be prokaryotic (bacterial), non-prokaryotic (granulomatous, tubercular, brucellar, fungal, parasitic, etc.). Fungal infection can also occurs when a patient is on immunosuppressant therapy. Tubercular vertebral osteomyelitis has a high prevalence in developing countries like India. Co-infection of the spine by both fungal and bacterial organisms in rare cases, there is only one case that has been reported till now in our literature review.

Case 1: A 42-year-old man presented with complaints of lower back pain for 3 months and fever with chills for 1 month. He had done multiple OPD visits to other centres for his lower back pain in the past 2 months, while a whole spine MRI was done which was suggestive of pyogenic intradural disease, but multiple splinter surgeries (sacroiliac joint) failed to correct the same for nerve roots for which he was given 3 days of IV and followed by 15 days of oral methylprednisolone. On admission, patient developed fever and lower back pain for which he was admitted. Repeat MRI spine revealed Kramer stenosis index and axial spondyloarthropathy. At the point, he was referred to our centre for further management and he was admitted. He was a known case of diabetes and underwent bilateral DJ stenting for nephrolithiasis 3 months before. On post-operative day 4, he had developed low back pain. He was too frail but mobile, unable to sit or walk without support. He also had hypertension and diabetes mellitus Type 2. On admission he was in the second trimester of pregnancy. He was on treatment with antibiotics and steroids. On admission, patient was admitted and his lower limb weakness has improved with lower limb muscles power 0/5 to 3/5 on follow-up after a month.

Case 2: Non-prokaryotic vertebral osteomyelitis due to tuberculosis is common in a high TB burden country like India. Even though Gandlial is a rare case against tuberculosis, but should always be considered in a differential in patients having risk factors for tuberculosis in our patient abdominal surgery, DMS and stools could have predisposed for developing vertebral osteomyelitis. The possibility of non-tubercular osteomyelitis should not be ignored as cases of sporadic cases may occur in people who have risk factors for infection, especially during pregnancy with clinical and radiologic signs being hallmark. High suspicion and tissue diagnosis remain crucial for early diagnosis and aids in better clinical outcome.

Case 3: A 52-year-old man was referred to our centre with low back pain for 1 year and difficulty in walking. On admission, patient had no history of trauma, fever, GIT symptoms. On examination, he was mildly hypertensive and had reduced perianal sensation. There were no signs of sinusitis or TMJ. Ultrasound revealed a collection, which was aspirated and sent for culture and sensitivity. On admission, patient had fever, and his lower limb weakness has improved with lower limb muscles power 0/5 to 3/5 on follow-up after a month.

The biopsy of the sacrum sample showed few tB and mTDR resistant tuberculosis. We suspect that the patient was on treatment for non-tubercular osteomyelitis with antituberculosis medication for the last 3 months. These findings have been reported in the literature, and the patient was started on ATT for 6 months with complete resolution.

Discussion: Vertebral osteomyelitis is a rare case and should be considered in the differential diagnosis of patients with protracted back pain. It is crucial to consider infectious diseases such as tuberculosis and fungal infections in patients with back pain. However, a definitive diagnosis is challenging as diagnosing bone tissue is difficult. High index of suspicion should be there to make the diagnosis. Early detection and aggressive management may have a favourable outcome.