WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal Homepage: www.ijrpr.com ISSN 2582-7421

Pott's Spine in an Elderly Patient: A Case Study

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ABSTRACT

Background: Pott's spine, or spinal tuberculosis, is an extrapulmonary form of tuberculosis that affects the vertebral column and may cause vertebral destruction, pain, restricted mobility, neurological complications and deformity. Early diagnosis, antitubercular treatment and appropriate supportive care are important to reduce complications.

Case presentation: An 83-year-old female, Mrs. Tulsi Devi, was admitted to Indira Gandhi Medical College (IGMC) Hospital with Pott's spine. Her complaints included back pain radiating to the right leg, difficulty moving, fever and night sweats. Her medical history included diabetes mellitus, hypertension and hyponatremia, and she had undergone angioplasty in 2015. Laminectomy with metal rods and screws was planned after approximately 15 days of directly observed treatment short-course (DOTS)/antitubercular therapy.

Clinical findings and management: Documented findings included weight of 49 kg, Glasgow Coma Scale score of 12/15, respiratory rate of 25 breaths/min, heart rate of 100 beats/min and SpO_2 of 95%. Investigations showed anemia, leukocytosis, low serum sodium and potassium, and abnormal arterial blood gas values. Treatment documented in the case included antitubercular medicines, analgesics and supportive care. Nursing interventions focused on pain relief, neurological monitoring, spinal precautions, mobility support and nutrition.

Conclusion: This case emphasizes comprehensive assessment and coordinated medical, surgical and nursing care for an elderly patient with Pott's spine. Close monitoring of pain, neurological status, mobility, laboratory abnormalities and treatment adherence is essential.

Introduction

Pott's spine, also known as tuberculous spondylitis, is a form of extrapulmonary tuberculosis caused by Mycobacterium tuberculosis. The infection commonly involves the thoracic and lumbar vertebrae and may spread through the bloodstream from a primary focus. Progressive infection can damage vertebral bodies and adjacent discs, potentially causing vertebral collapse, spinal deformity, abscess formation and neurological compromise.

Clinical manifestations may include persistent back pain, stiffness, fever, night sweats, weight loss and restricted movement. Spinal cord compression can result in sensory changes, weakness or paralysis. Management generally involves antitubercular therapy, spinal protection, pain management, nutritional support and surgical decompression or stabilization when clinically indicated.

Case Presentation

Mrs. Tulsi Devi, an 83-year-old female, was admitted to IGMC Hospital with a diagnosis of Pott's spine. She presented with back pain radiating to the right leg, difficulty in movement, fever and night sweats. The case documentation also noted muscle spasm and rigidity, numbness and tingling, weakness/fatigue, disturbed sleep and reduced dietary intake.

Past medical history: Diabetes mellitus, hypertension and hyponatremia were documented. The patient had a history of angioplasty in 2015.

Surgical history and plan: Laminectomy with metal rods and screws was planned after approximately 15 days of DOTS/antitubercular therapy. The case record states that the procedure had been planned but had not been performed at the time of documentation.

Patient profile and history: The presentation records the patient as an 83-year-old married female, a housewife with primary education, admitted to IGMC Hospital on 30 September 2026 at 10:00 p.m. Her attending doctor was recorded as Dr. Anil. The patient weighed 48 kg and was described as thin and poorly nourished. The case presentation reports that she was cooperative with the treatment plan, conscious and oriented to person, place and time, although agitation was also noted during assessment.

History of previous treatment: Approximately one year before this admission, the patient had started antitubercular treatment but experienced vomiting, diarrhoea and hyponatremia. She stopped the treatment herself without medical supervision. The case presentation states that her condition subsequently

worsened and that she was on complete bed rest. A protrusion or prolapse involving the L3–L4 vertebral region was documented. This history highlights the importance of counselling, adverse-effect monitoring and supervised treatment modification rather than independently stopping therapy.

Personal and family history: Sleep was disturbed by pain, with approximately 4–5 hours of sleep per day. Dietary intake was inadequate; she took one or two meals daily and was receiving a semi-solid diet. The family's reported annual income was approximately ₹1,20,000, mainly from her son. No use of tobacco, alcohol or other substances was reported. The presentation records no significant hereditary illness or surgical history among other family members. The patient's past surgical history included angioplasty in 2015.

Vital-sign observations: On 8 October 2026, temperature was 100.2°F, pulse 110 beats/min, respiratory rate 18 breaths/min and blood pressure 140/94 mmHg. On 9 October, temperature was 98°F, pulse 105 beats/min, respiratory rate 20 breaths/min and blood pressure 120/90 mmHg. On 10 October, temperature was 98.2°F, pulse 90 beats/min, respiratory rate 20 breaths/min and blood pressure 100/70 mmHg. These observations show an initially febrile state and elevated pulse, followed by a lower recorded temperature and pulse. Blood pressure and clinical status require interpretation alongside the full clinical record.

Physical examination: General examination described a thin, poorly nourished patient weighing 48 kg and measuring 4 ft 6 in. Kyphosis and lordosis were noted, with abnormal posture and impaired gait due to leg pain. The patient had difficulty moving and reported weakness, fatigue, generalized malaise and body ache. Respiratory assessment recorded a rate of 25 breaths/min, symmetrical chest movement and breath sounds heard on auscultation. Cardiovascular notes recorded a pulse around 100 beats/min, chest-area pain and tenderness, and a murmur. The central nervous system section documented consciousness and orientation, with an L3–L4 spinal abnormality and a recorded swelling/bulge. The skin was described as soft and wrinkled with reduced elasticity; a lump or mass over the back was also recorded.

Diagnostic work-up: The case presentation lists CBC, ESR, CRP, X-ray, CT, MRI, ultrasound of the whole abdomen, Mantoux testing and bronchoscopy as performed. The X-ray note states that there was no evidence of lung consolidation. Echocardiography was reported to show dilatation of the left ventricle, right atrium and right ventricle, left ventricular ejection fraction (LVEF) of 60%, severe tricuspid regurgitation and pulmonary arterial hypertension. Laboratory values should be transcribed from the original laboratory reports before publication because the presentation's laboratory slides do not provide a complete readable set of results.

Clinical Assessment and Investigations

The recorded general assessment and laboratory/investigation findings are summarized in Table 1.

Parameter	**Documented finding**
Weight	49 kg
Glasgow Coma Scale (GCS)	12/15
Respiratory rate	25 breaths/min
Heart rate	100 beats/min
SpO_2	95%
Hemoglobin	9 g/dL
Total leukocyte count (TLC)	18.33/cumm
Platelet count	130×10^3/cumm
Random blood sugar	189.8 mg/dL
Serum sodium	126.2 mmol/L
Serum potassium	2.57 mmol/L
Serum calcium	8.8 mg/dL
Serum magnesium	1.6 mg/dL
Creatinine / urea / BUN	1.09 mg/dL / 36 mg/dL / 16.82 mg/dL
Arterial blood gas	pH 7.32; pO_2 35 mmHg; pCO_2 60 mmHg
Echocardiography	Dilated left ventricle, right atrium and right ventricle; LVEF 52%; severe tricuspid regurgitation with pulmonary arterial hypertension

Parameter	**Documented finding**
Other investigations	CBC, ESR, CRP, X-ray spine, CT, MRI, ultrasound abdomen, endoscopy and Mantoux test documented as performed

Treatment and Management

The medication list is presented in Table 2.

Medicine	Dose	Route	Frequency
Levofloxacin	750 mg	Oral	OD
Rifampicin	300 mg	Oral	OD
Ethambutol	800 mg	Oral	OD
Pyridoxine	40 mg	Oral	OD
Pantop 40	40 mg	Oral	OD
Calcium	500 mg	Oral	OD
PCM/Dolo	650 mg	Oral	SOS
Neurobion	1 tablet	Oral	BD
Thyroxin	50 mcg	Oral	OD
Aspirin	150 mg	Oral	OD
Atorvastatin	75 mg	Oral	OD
Amlodipine	10 mg	Oral	BD

Supportive management included spinal bracing, nutritional support, pain management and planned surgical stabilization. Laminectomy with metal rods and screws was planned after approximately 15 days of DOTS/antitubercular therapy; it had not yet been performed.

Nursing Care and Outcome

Nursing care focused on the following priorities:

Acute pain: Assess pain using the Visual Analogue Scale (VAS); the documented initial score was 8/10. Provide comfortable positioning, relaxation and deep-breathing techniques, and administer prescribed analgesics. The case report records reduced pain and improved comfort after interventions.

Impaired physical mobility: Assess tolerance to activity, assist with activities of daily living, encourage gradual activity as tolerated and maintain spinal alignment and prescribed precautions. The report describes improved participation in activity with assistance and use of energy-conservation techniques.

Neurological monitoring: Monitor sensory changes, numbness, tingling, muscle strength and functional status, and report deterioration promptly. Maintain spinal precautions and support safe ambulation with assistance or a device when indicated.

General supportive care: Monitor vital signs, nutrition, skin integrity and response to treatment. Reinforce adherence to prescribed therapy and prepare the patient for the planned surgical procedure.

Nursing diagnoses documented in the presentation included acute pain related to vertebral inflammation and muscle spasm; impaired physical mobility related to spinal instability and pain; ineffective spinal tissue perfusion associated with possible cord compression; risk of infection; and risk of impaired skin integrity related to immobility and pressure areas.

Pain-management evaluation: The initial Visual Analogue Scale score was documented as 8/10. Interventions included comfortable positioning, deep-breathing and relaxation techniques, prescribed tramadol, and music therapy. The recorded post-intervention pain score was 6/10, with the patient appearing more comfortable.

Mobility and neurological care: The presentation describes monitoring vital signs and oxygen saturation during activity, encouraging gradual activity as tolerated, providing a comfortable environment, and educating the patient and family about signs of overexertion. Neurological observations, including consciousness, motor response and sensory symptoms, were emphasized. Spinal alignment and precautions should be maintained, with mobilization guided by the treating team.

Outcome: The reduced pain, improved comfort and gradual participation in activity. It also monitoring of neurological status and encouragement of safe ambulation.

Discussion

This case describes an elderly patient with Pott's spine presenting with radiating back pain, difficulty moving, fever and night sweats. Her associated conditions—diabetes mellitus, hypertension and a history of hyponatremia—were relevant to her overall clinical assessment and supportive care needs. Documented examination findings included restricted mobility and neurological symptoms such as numbness and tingling.

Investigations recorded anemia (hemoglobin 9 g/dL), elevated total leukocyte count (18.33/cumm), platelet count of 130 × 10^3/cumm, hyperglycemia (random blood sugar 189.8 mg/dL), hyponatremia (126.2 mmol/L) and hypokalemia (2.57 mmol/L). The recorded arterial blood gas values were pH 7.32, pO_2 35 mmHg and pCO_2 60 mmHg. Echocardiography documented dilated cardiac chambers, LVEF 52%, severe tricuspid regurgitation and pulmonary arterial hypertension. These abnormalities warrant clinical interpretation and management by the treating team; this case report does not independently verify the underlying reports.

The documented plan combined antitubercular therapy with spinal protection, analgesia, nutritional support and planned surgical stabilization. Nursing care is important for assessing pain, monitoring neurological and functional changes, maintaining spinal precautions, supporting safe mobility, observing treatment effects and preparing the patient for possible surgery.

Conclusion

Pott's spine can cause substantial pain, restricted mobility, spinal deformity and neurological complications. In this case, an 83-year-old woman presented with radiating back pain, difficulty moving, fever and night sweats, alongside a history of diabetes mellitus, hypertension and hyponatremia. The case documentation describes antitubercular and supportive treatment, nursing interventions for pain and mobility, neurological monitoring, and a plan for laminectomy with instrumentation. Comprehensive assessment, close monitoring, treatment adherence, nutrition, spinal precautions and coordinated multidisciplinary care are important components of management.

Acknowledgements

I expresses sincere gratitude to the Principal and faculty members of Akal College of Nursing, Eternal University, Sirmaur, Himachal Pradesh, for their valuable guidance and academic support in preparing this case report. The author also acknowledges the cooperation of the healthcare team at Indira Gandhi Medical College (IGMC), Shimla, during the preparation of this report. Special thanks are extended to the patient and her family for their cooperation. The patient's privacy and confidentiality have been maintained throughout the preparation of this case report.

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