Case Presentation

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Lower Limb Monoplegia

ABSTRACT
We report the case of a 68-year-old man with multiple cardiovascular and oncological comorbidities (active lung and prostate cancer) who developed rapidly progressive acute paraplegia following percutaneous bone biopsy, percutaneous fixation, and bipedicular kyphoplasty at L1. Although computed tomography ruled out mechanical causes and cement leakage, magnetic resonance imaging confirmed spinal cord ischemia extending from T9 to L4. This report analyzes the multifactorial etiology of the event, highlighting the interaction between paraneoplastic hypercoagulability and the surgical technique as key factors to be considered during preoperative planning.
Keywords: Spinal cord infarction; ischemic stroke; ischemia; kyphoplasty; paraplegia.
Level of Evidence: IV

Monoplejía de miembro inferior

RESUMEN
Se presenta el caso de un hombre de 68 años con múltiples comorbilidades oncológicas (cánceres de pulmón y de próstata en actividad) y cardiovasculares que desarrolló una paraplejía aguda rápidamente progresiva tras una biopsia ósea por punción, fijación percutánea y cifoplastia bipedicular en L1. A pesar de que, con la tomografía computarizada, se descartaron causas mecánicas o fuga de cemento, la resonancia magnética confirmó una isquemia medular desde T9 hasta L4. En este reporte, se analiza la etiología multifactorial del evento, y se destaca la interacción entre el estado de hipercoagulabilidad paraneoplásica y la técnica quirúrgica, como puntos clave por tener en cuenta en la planificación prequirúrgica.
Palabras clave: Infarto medular; accidente cerebrovascular; isquemia; cifoplastia, paraplejía.
Nivel de Evidencia: IV

INTRODUCTION

A 68-year-old man presented with several months of progressively worsening thoracolumbar pain, rated as 9 out of 10 on the visual analog scale, with no response to nonsteroidal anti-inflammatory drugs or opioid analgesics. His medical history included active lung and prostate cancer (without chemotherapy or radiotherapy), chronic pericardial effusion, and an episode of pulmonary thromboembolism in 2023.

To manage pain, a percutaneous surgical biopsy, percutaneous pedicle fixation from T12 to L2, and bipedicular kyphoplasty of the L1 vertebral body were performed. The patient was receiving rivaroxaban, which was suspended by the Hematology Service five days prior to the intervention.

The procedure was carried out according to the preoperative plan and without intraoperative adverse events. Upon awakening from anesthesia, the patient presented with monoplegia of the right lower limb, which progressed to paraplegia in less than 24 hours.

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FINDINGS AND INTERPRETATION OF IMAGING STUDIES

Preoperative images

Figure 1 shows preoperative magnetic resonance imaging of the lumbar spine, including midsagittal T1-, T2-, and STIR-weighted sequences, as well as an axial slice at the level of the L1 vertebral body. A lesion is observed compromising the vertebral body structure and predominantly involving the anterior column at the L1–L2 segment, without spinal canal involvement. The lesion appears hypointense on T1- and T2-weighted sequences and hyperintense on STIR images.

Figure 1. Preoperative magnetic resonance imaging of the lumbar spine demonstrating the lesion. Midsagittal T1-weighted (**A**), T2-weighted (**B**), and STIR (**C**) sequences. Axial slice (**D**).

Postoperative images

Postoperative computed tomography confirmed correct pedicle screw placement and absence of intracanal cement leakage (Figure 2). No signs of spinal canal compression were observed.

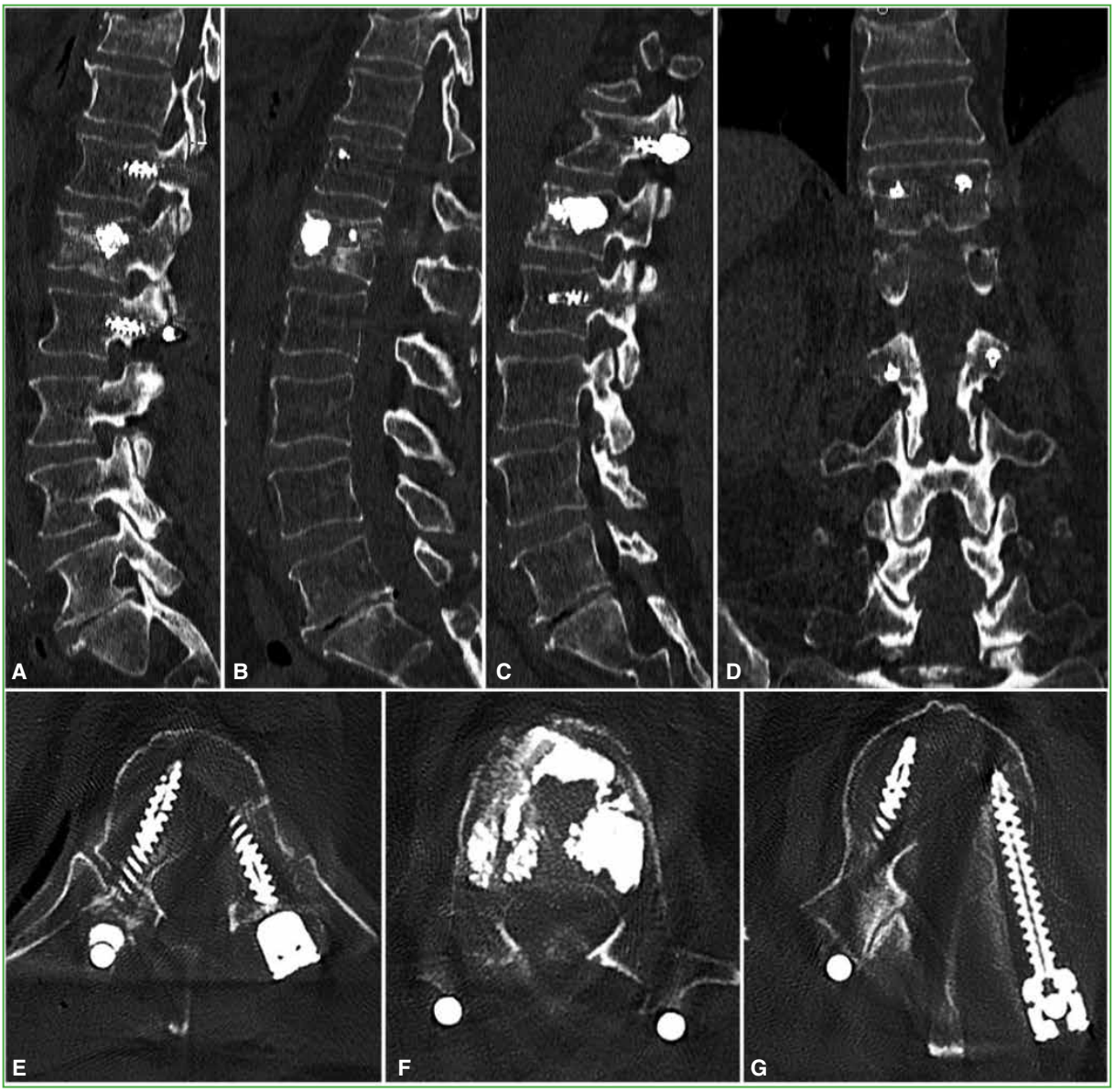

Figure 2. Immediate postoperative computed tomography of the thoracolumbar spine. Correct screw and cement positioning is observed. **A**. Left parasagittal section. **B**. Medial sagittal section. **C**. Right parasagittal section. **D**. Coronal reconstruction. **E**. Axial section at the upper instrumentation level. **F**. Axial section at the augmentation level. **G**. Axial section at the lower instrumentation level.

Conflict of interest: The authors declare no conflicts of interest.

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