



## Severe vertebra collapse due to vertebra osteonecrosis after percutaneous vertebroplasty

A 70-year-old woman complained of 2-week history of severe back pain and restricted motion after a traffic accident. A magnetic resonance imaging of the lumbar spine showed a T12 compression fracture ([Figure A](#)) and severe osteoporosis (T score:  $-3.4$ ); visual analogue scale (VAS) score was 9. Bilateral percutaneous vertebroplasty was performed and a total of 4.5 mL of polymethylmethacrylate (PMMA) bone cement was injected ([Figure B,C](#)). The patient was totally free of back pain, and the VAS score was improved to be 3 at 1 week after surgery. She received risedronate sodium (5 mg/day) and thoracolumbar hyperextension brace fixation for 1 month. However, on the 86th day after surgery, she complained of enhanced back pain without specific accident. A physical examination showed VAS score was 5, plain radiograph showed a T12 vertebra collapse and kyphoscoliosis ([Figure D](#)). Sagittal computed tomography ([Figure E](#)) and magnetic resonance imaging ([Figure F](#)) demonstrated a T12 intravertebral vacuum cleft sign, suggesting the possibility of a T12 vertebral osteonecrosis. We suggested percutaneous vertebroplasty for further treatment, but the patient refused.

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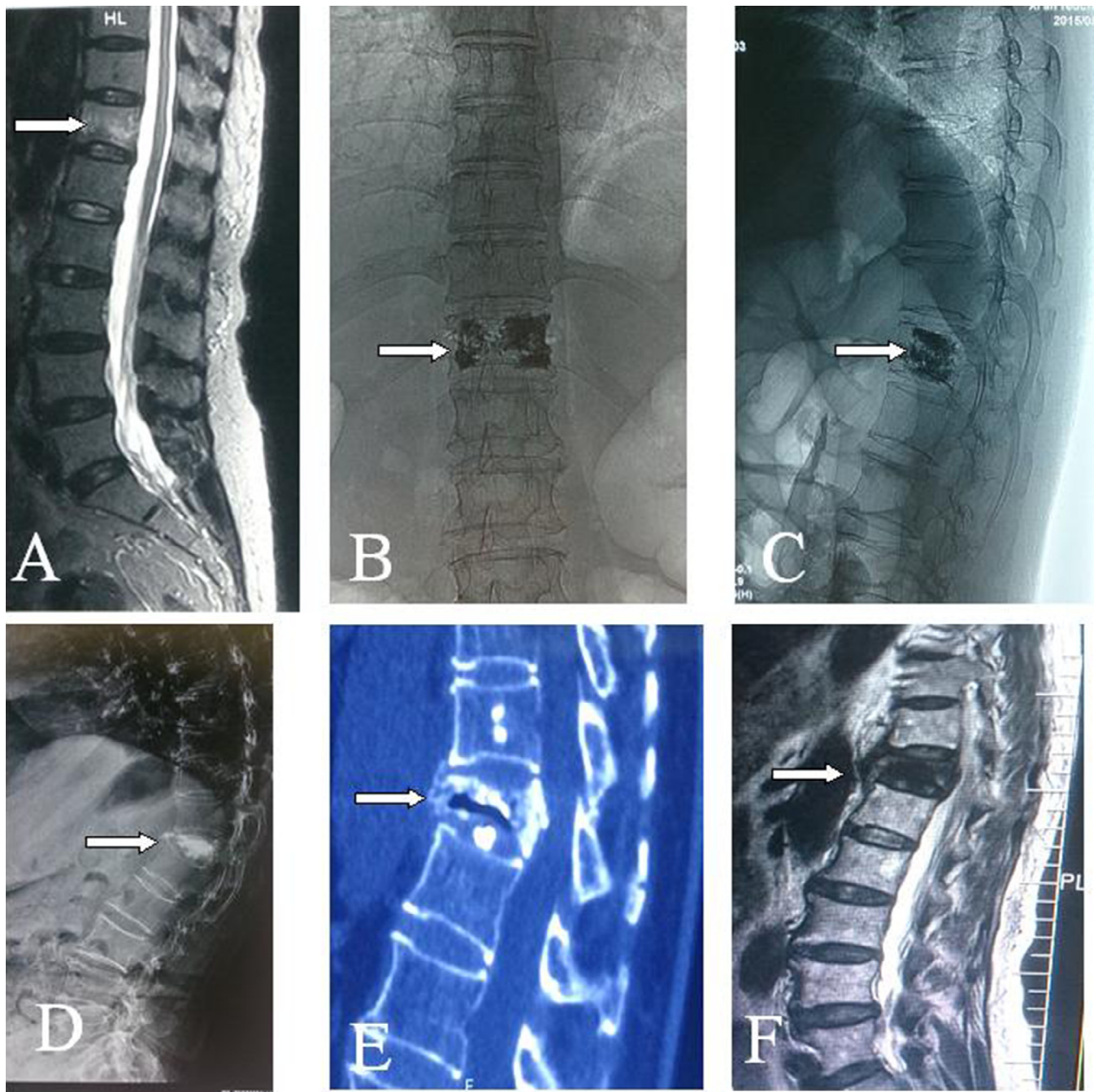


Figure. (A) MRI T2-weighted images showed high signal intensity on the T12 vertebra with compression (white arrow). (B–C) A total of 4.5 mL of polymethylmethacrylate (PMMA) bone cement was injected, and cement diffusion occurred evenly and was achieved end plate-to-end plate (white arrow). (D) Plain radiograph showed T12 vertebra collapse, with kyphosis angle of  $45^{\circ}$  (white arrow). (E) CT reconstruction shows the T12 vertebral body collapse with intravertebral vacuum (white arrow). (F) MRI T2-weighted images demonstrated low signal intensity on T12 (white arrow).