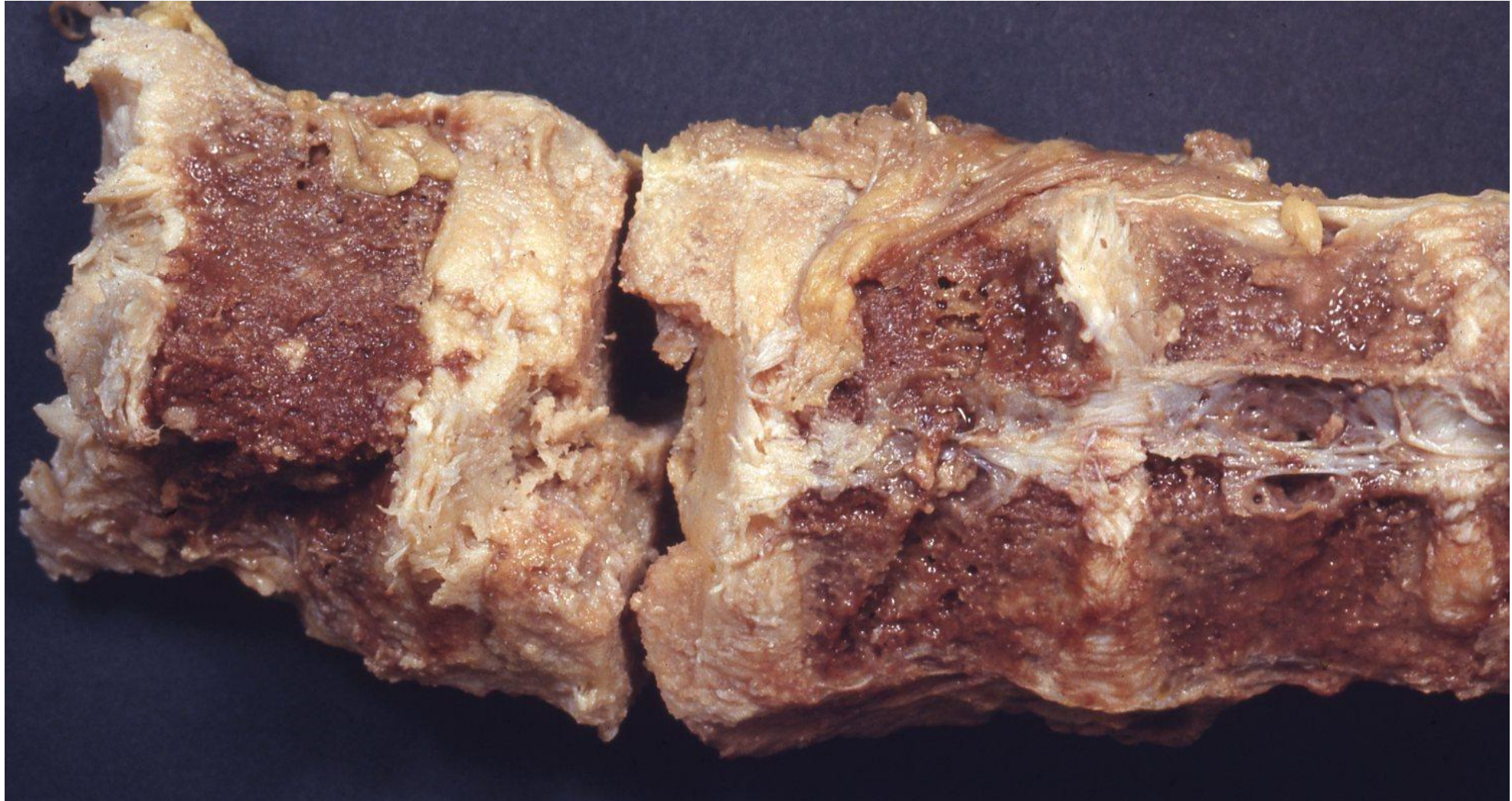


Gross appearance of vertebral compression fracture

Vertebral compression fracture is the most common osteoporotic fracture principally involving the aging populations with a female predominance. The fracture typically affects the anterior column of the vertebral body, producing a wedge-shaped deformity due to biomechanical failure under compressive loading. The thoracolumbar junction (from T12 to L2) and lumbar spine (from L3 to L5) are the sites of the fracture. In aging societies, the incidence of vertebral compression fractures is increasing. The fracture results in substantial pain, impaired mobility, loss of independence and significantly reduced quality of life in the aged. In younger populations, vertebral compression fracture typically results from high-energy traumatic events, such as motor vehicle collisions or falls from significant heights. Metastatic carcinoma or multiple myeloma may be another etiological factor for the pathological fracture.

Ref.: Donnally III CJ, et al. Vertebral compression fractures. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK448171/>



Vertebral compression fracture seen in a 79 y-o male patient with osteoporosis. Lumbar spine (L4) is significantly compressed to provoke lumbago (gross appearance at autopsy, after formalin fixation).



84F, Th10

Vertebral compression fracture seen in an 84 y-o female patient with osteoporosis. Thoracic spine (Th10) is significantly compressed to provoke lumbago. Compare the height of the respective vertebral segment (gross appearance at autopsy, after formalin fixation).



Vertebral compression fracture seen in an 84 y-o female patient with osteoporosis. Thoracic spine (Th12) is compressed to provoke lumbago. Periosteal hemorrhage is evident. Hemorrhagic pleural effusion is seen at autopsy (gross appearance at autopsy, after formalin fixation).