

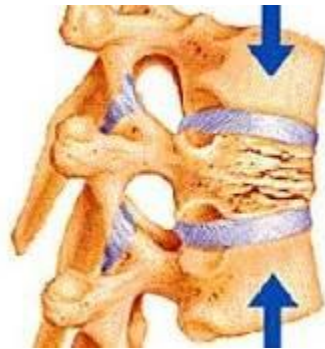
# Good Practice and Adverse Drug Reactions

## Vertebral Compression Fractures

Maxime Coles MD

A vertebral compression fracture (VCF) is often seen when too much pressure is applied to a weakened bone. They are due to axial compression which results in a broken vertebra. It is also seen often in high level of trauma in relation to motor vehicle accident, fall from high, Gun Shot wound etc. Pathologies which render bone weak like in Osteoporosis in relation with old age or in relation with hormonal imbalance in postmenopausal women, in bone disease like Osteogenesis imperfecta, tumor, infection etc. can be also the cause of such debilitating fractures.

Vertebral fractures with debilitating pain may progress to deformation especially like a kyphotic (Dowager's hump or a hunched-back) while at examination pressure applied over the spinal area involved, may cause pain, tingling or numbness but surely weakness to the lower extremities.



Recently, investigators from Japan shed light on the long-term effects of vertebral compression fractures. It was discovered that the incidence of such fracture has increased globally while the population ages. If many patients with vertebral fractures may enjoy a satisfactory outcome, others have experienced persistent and disabling pain, impeding upon their daily living activities. Such fractures may have a direct impact on their quality of life.

The study was published in the Journal of Bone and Joint (Honda and al.) where the mortality rate, the use of analgesics and the requirement for

specialized care was investigated in a large retrospective study of 13,392 old adults, with a mean age of 80 in a cohort of patients where more than  $\frac{3}{4}$  were women between June 2014 and February 2019. 5.3% of such patients died within a year while almost 20% of patients suffering with such vertebral fractures (Thoracic or Lumbar) were found to be dependent of special care or needed analgesic medication while surgical treatment was contemplated in a year, especially for the women.

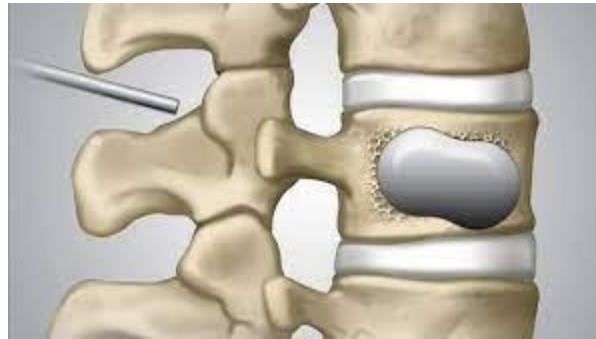
Treatment for vertebral compression fractures consists in insuring a program of rehabilitation to strengthen the spine, analgesic medication. Surgical treatment may be needed if conservative approaches failed to relieve symptoms. Vertebroplasty and Kyphoplasty have relieved pain in restoring also height of the vertebra prior to injecting cement into the broken bone to stabilize the fractures. Bracing can be useful to prevent further deformities and facilitate posture in erected position or in walking. These fractures are slow to heal but rarely fail to heal.

They do have substantial impact of such fracture. This Japanese paper tried to shed light on the long-term effects of vertebral compression fractures while the incidence of these fragility fractures continues to increase globally as the population ages. Some will have satisfactory results and others may experience persistent and disabling pain affecting the quality of life, reported in this paper evaluation people victim of a vertebral compression fracture (18,392) between June 2014 and February 2019.

They concluded that 19.7% patients treated with Vertebral compression fractures become care-dependent, while 5.3% died within one (1) year, 22% of the patient required analgesics for a period of 4 months while another 8.2% of patient required analgesic longer for a year period. Other risks factors like the female sex or the thoraco-lumbar spine fractures location can be added. Finally, the authors found out that individuals with pre-existing care dependency were likely to experienced functional decline following a vertebral compression fracture.

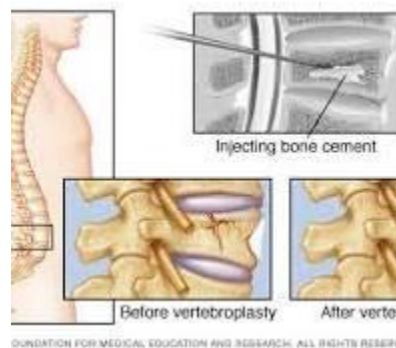
So, in conclusion, one will have to keep in mind the findings presented in this paper in relation to mortality, analgesic use and care requirements following a vertebral compression fracture in a cohort of 18,392 older patients.

Be sure to remember that minimally invasive procedures like a “Vertebroplasty” or a “Kyphoplasty” can be offered to treat a painful compression fracture of the vertebrae, by the introduction of special cement injected into the fracture site for stabilization, in the goal of relieving pain while helping in restoring mobility. Not all people with a fracture vertebra can be a candidate for such procedures.



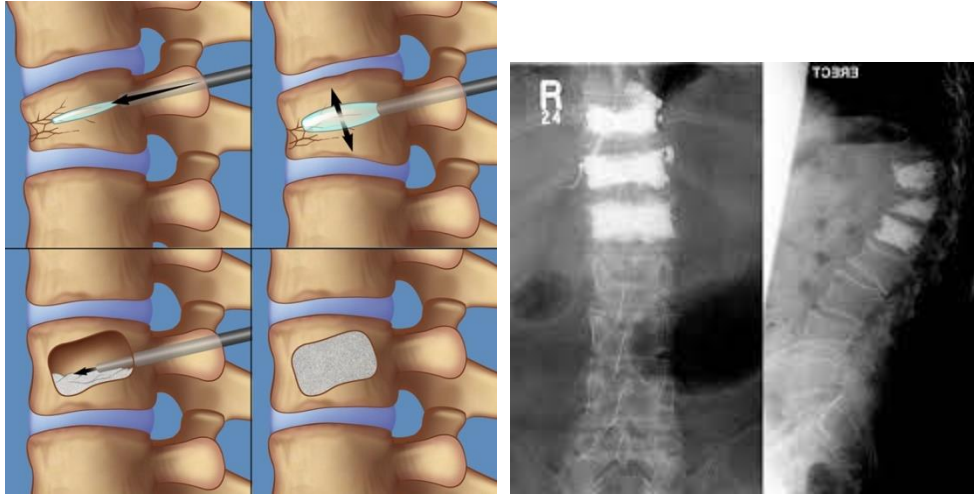
Balloon reduction of vertebral fracture

If it is a burst fracture with involvement of all columns, a more elaborated procedure like a spinal fusion with internal fixation may be needed. A “Vertebroplasty” is a percutaneous procedure performed to treat compression of thoracic or lumbar fractures in order to relieve pain and discomfort by injecting special cement under a liquid form, in the fracture site.



Vertebroplasty

A “Kyphoplasty” is a little more refined procedure but also a minimally invasive and subcutaneous surgical procedure to treat the spinal fracture by performing a balloon allowing a reduction of the vertebral fracture and to inject the liquid cement into the cavity. This will also restore stability and relieve pain.



Kyphoplasty

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