Vertebral metastases

The predilection for growth of tumor cells within the bone microenvironment was recognized as far back as 1889 by Paget and has been termed the “seed and soil” hypothesis [1].

Bone metastases remains the most prevalent cause of chronic pain within cancer patients [2].

Vertebral metastases (94%) may have epidural extension. see Spinal epidural metastases

Epidemiology

The most frequent site of bone metastases is the vertebra, likely related to the high hematopoietic activity and vascularization of the spine [3].

Osseous metastatic lesions are common and have been seen in up to 80% of patients with cancer at the time of death [4] , with spinal metastases seen in approximately 50% of these patients and contribute to significant morbidity [5].

They represent a major turning point in the disease from the functional impact they generate.

Most of the patients with epidural involvement have associated vertebral metastases. Most metastatic spinal lesions (70%) are found at the thoracic level, 20% in the lumbar region, and 10% in the cervical region [6].

A systemic analysis suggested that breast, lung and prostate lesions could be the most common pathological types of cancer for vertebral tumor metastases from unknown primaries, and other common diagnoses could include lymphoma, multiple myeloma, renal cancer [7].

see Cervical spinal metastases..

see Thoracic spinal metastases.

see Lumbar spinal metastases.

Classification

see Spinal metastases classification.

Diagnosis

Early diagnosis and appropriate treatment is most important to avoid devastating complication like paraplegia. Magnetic resonance imaging (MRI) is the imaging modality of choice for epidural space assessment, [8] but a symptom-oriented regional MRI is mostly done in these patients. However, spinal epidural metastases detected in asymptomatic patient with 18F positron emission tomography (F-18 FDG PET/CT), followed by targeted MRI before neurological deficits gives the best way to diagnose and treat this condition in early stage.

Treatment

see Vertebral metastases treatment.

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