Spinal metastases clinical features

Spinal Metastases are a common source of severe pain in cancer patients. The secondary effects of spinal metastases include pain, bone fractures, hypercalcemia, and neurological deficits. As the disease progresses, pain severity can increase until it becomes refractory to medical treatments and leads to a decreased quality of life for patients. A key obstacle in the study of pain-induced spinal cancer is the lack of reliable and reproducible spine cancer animal models [1].

Apart from chronic and increasing pain, spinal metastases lead to neurological deficits due to destruction of the vertebral body and subsequent epidural growth expansion.

Back pain is the earliest and most common symptom of spinal epidural metastases. Back pain is present in more than 95% of patients at diagnosis [2].

Spinal epidural metastases associated back pain can takes several forms. Localized pain to the region of the spine affected by the metastases is usually the first symptom; typically, the pain progressively increases in intensity over time. This pain is caused when the bone marrow metastases extends to stretch the periosteum or invades soft tissues. Radicular pain due to compression or invasion of the nerve roots is commonly present in patients who develop MESCC. The pain is frequently unilateral with cervical or lumbosacral spine involvement or bilateral with thoracic spine involvement. Mechanical back pain is associated with spinal instability caused by vertebral body collapse and is relatively uncommon; it is made worse by movement and partially relieved by rest [3].

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