Spinal metastases epidemiology

The spine is the commonest site for bone metastases, and the incidence of spinal metastases is increasing [1] and this is not surprising, with increasingly older populations, longer life expectancy, and improvements in medical treatment [2].

Metastatic epidural spinal cord compression (MESCC) is a common neurological complication of cancer that is second only to brain metastasis as the cause of neurological dysfunction caused by metastasis. Spinal metastases is common in patients with cancer.

They are mostly localized to the lumbar, thoracic, and cervical spine. The most common primaries to result in spinal metastases include lung, breast, and prostate carcinomas in adults as opposed to leukemia, Ewing sarcoma, rhabdomyosarcoma, and neuroblastoma in children. In patients diagnosed with cancer, bone metastases are found in 40% and spinal metastases in 10% [3].

The spine is the third most common site for cancer cells to metastasis, following the lung and the liver. Approximately 5-30% of patients with systemic cancer will have spinal metastasis; some studies have estimated over 30-70% of patients with a primary tumor have spinal metastatic disease at autopsy. Spinal metastases are slightly more common in men than in women and in adults aged 40-65 years than in others. Fortunately, only 10% of these patients are symptomatic, and approximately 94-98% of those patients present with epidural and/or vertebral involvement.

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see Vertebral metastases

Between 5% and 10% of all cancer patients developed it in the course of their disease, occurring in up to 70% of the patients with terminal cancer

As patient with cancer live longer, spine metastasis is a growing problem.

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Beside the lung and liver, the spine is the third most common localization of manifestation.

A series of 100 consecutive patients with spinal metastases causing cord or cauda equine compression, who were treated with surgical decompression. Of these, 30% (all women) had breast cancer. The most common primary neoplasm in man was prostatic carcinoma. Pain was the earliest and most prominant symptom, followed by weakness. Bladder dysfunction was recorded in 40 patients. The thoracic region was the most common site of cord compression (76 patients) [5].

Denmark

Bach et al. reviewed all medical records concerning patients suffering from spinal cord or cauda equina compression (SCC) secondary to cancer, in the eastern part of Denmark, from 1979 through 1985. During the period the incidence of SCC in cancer patients went up from 4.4% to 6%. However, this increase was not significant. The series comprised 398 cases, with carcinoma of the prostate (19%), lung (18%), breast (14%) and kidney (10%) accounting for 61%. The symptoms were evaluated in accordance with the patients rating of pain, motor deficits, sphincter control and paraesthesia, whereas the clinical manifestations were classified on the basis of motor deficit and bladder dysfunction. During the period preceding the diagnosis of SCC, 83% of the patients suffered from back pain, 67% from deteriorating gait and 48% had retention of the urine. In 35% of the patients there was no sphincter disturbance and 10% had normal sensory function. The outcome of treatment was estimated by changes in motor deficits and sphincter function, and depended primarily on the patients condition at the time of the diagnosis. Of the patients who were able to walk before treatment, 79% remained ambulatory, whereas only 18% of the non-ambulatory patients regained walking ability. Patients treated by decompressive laminectomy followed by radiotherapy apparently had a better response than patients treated with surgery or irradiation alone, but when the patients pre-treatment motor function was taken into account, no significant difference was observed. The study may call for a properly randomized trial with careful stratification of tumour biology, performance status and neurological deficits [6].

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