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Benefits of Early Intervention with Target Cementoplasty in Metastatic Fractures of the Spine: A case series

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Abstract

Pain due to spinal bony metastasis and metastatic fractures in not uncommon. Most of these patients suffer from severe pain and do not respond adequately o medical management. Moreover, some of these patients have limited life expectancy and some of them have already reached the maximum radiation dose or have considerable side effects of radiotherapy, which is the mainstay of treatment. Specially, with metastatic fractures, it becomes difficult to heal due to loss of bony structures and these fractures make them crippled and leads to other complications related to loss of movements like deep vein thrombosis, bed sores, atelectasis.

90% of vertebral column tumors are caused by metastasis from other organs. The vertebral column is the most common site of metastasis within the skeletal system, with 70% of diagnosed patients showing bone metastasis. In 30% of vertebral metastasis from solid tumors, VCF occurs by reduction of vertebral bone strength via osteoblastic or osteoclastic activity. Spinal metastasis can lead to economic loss, severe pain, neurologic injury, decreased life quality and even death.

Early diagnosis and treatment of spinal metastasis and metastatic fracture can preserve the patient's quality of life and the possibility of physical activities. Pain reduction after PVP is due to increased spine stability, tumor necrosis, and sensory nerve ending destruction. Tissue destruction occurs through highly exothermic reactions and local cytotoxic effects of polymethyl methacrylate (PMMA) polymerization. An early management with percutaneous vertebroplasty in spinal metastasis and particularly in metastatic fracture can improve the quality of life and reduce their sufferings and complications.

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