Original Paper

Diagnostic value of magnetic resonance imaging and bone scan to diagnose the vertebral metastases

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Abstract

Background and Objective: The vertebra is the most common site of bone metastases. Diagnosis of metastases particularly in the early stages can improve patients’ prognosis and therapy. This study was done to compare the diagnostic value of magnetic resonance imaging and bone scan for the diagnosis of vertebral metastases.

Methods: This descriptive study was done on 43 patients with any types of primary cancer. Patients underwent spinal magnetic resonance imaging and nuclear scan. Bone scan results were considered as the gold standard. The sensitivity and specificity were calculated for magnetic resonance imaging and nuclear scan.

Results: The magnetic resonance imaging diagnosed 19 cases of thoracic vertebral metastases which previously diagnosed as negative by bone scan. Sensitivity and specificity of magnetic resonance imaging compared to bone scan was 90.7% and 95.6%, respectively. The magnetic resonance imaging diagnosed 4 cases of lumbar vertebral metastases which were reported negative in bone scan. Sensitivity, specificity and accuracy of magnetic resonance imaging in compare to bone scan were 97.6%, 97% and 97.2%, respectively.

Conclusion: In diagnosis of vertebral metastases, the magnetic resonance imaging is more sensitive than bone scan.

Keywords: Magnetic resonance imaging, Bone scan, Vertebra, Metastasis

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