

## A Comparative Study of Spinal Tumors by Plain X-Ray, CT and MRI

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### Abstract

**Background:** Spinal lesions are one of the serious causes of neurological deficits and disability. Diagnosis of spinal lesions requires radiological evaluations which include plain X-rays CT and MRI. MRI is now playing a central role because of its ability to detect extradural, intradural, and extramedullary spinal tumors which is important for planning surgery. We in the current study tried to analyze various imaging modalities used for the diagnosis of spinal tumors X-rays, CT and MRI. **Methods:** During the study period, n=25 cases of spinal tumors were detected. The patients were investigated with plain spinal radiography to note the changes in spines and their joints. All the patients are evaluated with MRI for better delineation of the lesion and to know its relations with the cord and to know intrinsic cord changes due to tumor compression. CT is used to complement some tumors. It is highly sensitive to detect alteration in bone mineralization and is particularly useful in evaluating cortical bone. **Results:** Nerve sheath tumors and meningiomas are common intradural extramedullary tumors, constituting 28% and 20% in this series. Meningiomas are more common in females (100%) in this series. Neurofibroma has shown slight female predominance (57.14%). The duration of symptoms varies from 2 months to 5 years with a mean of 1 year. Histopathology: Nerve sheath tumors were the common histopathological type (7), out of n=7 cases n=4 cases were schwannomas, n=3 cases were neurofibromas followed by meningiomas (5), out of these n=5 cases n=3 were psammomatous, n=2 was meningothelial meningiomas. **Conclusion:** Plain film radiographs are included in the initial evaluation of patients with spinal tumors in our series with very low sensitivity in diagnosing and localization of spinal tumors. CT is a highly sensitive alternative to X-rays in demonstrating bony involvement. MRI imaging after injection of contrast media is considered the best neuroimaging technique with a sensitivity of 94% for the diagnosis of the type of spinal tumors and with a sensitivity of 100% for localization of the spinal tumors.