

En Bloc Resection of Solitary Spinal Metastasis from Thyroid Papillary Carcinoma

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INTRODUCTION:

Treating solitary spinal metastasis from thyroid papillary carcinoma poses unique challenges due to the highly vascular nature of thyroid carcinoma, significantly increasing the risk of hemorrhage during surgical resection. En bloc vertebral resection addresses this challenge by allowing the lesion to be resected with wide margins, thereby offering a better rate of local and remote control.

Papillary thyroid carcinoma (PTC) is more common than follicular thyroid carcinoma (FTC) however less likely to metastasize to the spine. Here, we present a rare case of solitary spinal metastasis originating from PTC.

CASE REPORT:

A 52-year-old female with past history PTC presented with severe back pain and instability for 3 months. Despite the absence of neurological deficits, the pain significantly impacted her quality of life. Examination reveals tenderness and instability pain at midlumbar region with no neurological deficit. Whole spine MRI showed a single metastatic lesion at L3, compressing the thecal sac. Single-photon emission computed tomography confirmed it as a solitary lesion.

Surgical intervention was deemed necessary to address the patient's symptoms and prevent further instability. She underwent preoperative embolization followed by en bloc tumor resection to achieve complete removal and spinal stabilization. Combined dorsal en bloc resection after transpedicular osteotomy and subsequent ventral vertebrectomy ensured adequate tumor exposure and access while minimizing spinal cord injury risk. The patient experienced significant improvement in pain and was able to ambulate independently shortly after surgery.



Figure 1: Sagittal and Axial T2-weighted MRI of L3 lumbar spine.

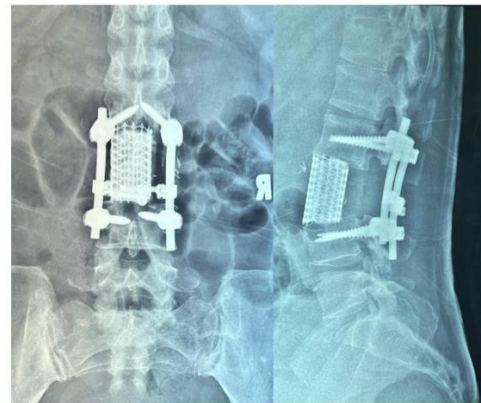


Figure 2: Post operative x-ray lumbosacral spine.

Discussion:

Solitary spinal metastasis from thyroid papillary carcinoma is a rare but challenging condition. En bloc resection offers several advantages, including complete tumor removal and restoration of spinal stability. The combined posterior and anterior approach allows for optimal exposure and access to the tumor, ensuring safe and effective tumor resection while minimizing the risk of complications

REFERENCES:

Ramadan, S., Ugas, M., Berwick, R., Notay, M., Cho, H., Jerjes, W., & Giannoudis, P. V. (2012). Spinal metastasis in thyroid cancer