

Management Of C2 Destructive Metastatic Lesions

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INTRODUCTION:

The incidence of metastatic spine disease is currently on the rise due to advancements in oncologic therapies increasing survival rates among cancer patients. Principles of spine surgery in metastatic spine disease include preservation of mechanical stability, neurological decompression, and pain control.

REPORT:

61-year-old lady with underlying breast cancer post mastectomy in 2019 presented with progressive neck pain for the past 6 months with an associated neck deformity. Examination did not reveal any neurological deficits over the upper and lower limbs. Cervical x-rays showed a destructive C2 lesion resulting in kyphotic deformity. CT and MRI scans revealed extensive metastatic disease with unilateral bony destruction of the posterior elements involving C2, and C3. A multidisciplinary team conference was conducted, and she was planned for a C0 – C5, C6, C7 occipito-cervical posterior instrumentation and fusion. Intra-operatively the C3 and C4 left sided lateral masses were soft and not amenable to lateral mass screw purchase, instrumentation and fusion was performed as planned. Post operatively patient recovered with no deterioration of neurological function.



Figure 1



Figure 2

Figure 1: Lateral cervical xray showing destruction of the C2 body resulting in kyphotic deformity.

Figure 2: Mid sagittal section T2 weighted MRI scan showing destruction of C2, canal compression with marrow changes in C3 and C4 vertebral bodies.

DISCUSSIONS:

The biopsy of C2 metastatic vertebral lesions presents unique challenges due to the proximity to critical neural structures and the potential for instability. Several biopsy options are available, open or CT guided, biopsy from another more accessible lesion. Literature looking into surgical treatment of 39 upper cervical metastases described various surgical techniques, including anterior, posterior, and combined approaches,⁽¹⁾ depending on the extent of vertebral involvement, presence of spinal cord compression, and overall patient condition. Surgery can be further augmented with vertebroplasty/kyphoplasty, adjunctive therapies, such as radiation and chemotherapy, offering promising outcomes in pain management and vertebral stabilization.⁽²⁾

CONCLUSION:

In conclusion, deciding on a surgical management for a metastatic C2 lesion will depend on the (i) patients' symptoms and general condition, (ii) type of primary lesion, (iii) extent of involvement of surrounding structures, (iv) need for direct/indirect decompression.

REFERENCES:

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