

radiosurgery to the Medial Thalamus for Chronic Pain: A Single Group Experience

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Abstract
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Abstract

Objectives:

To describe the efficacy and safety of radiosurgery to the medial thalamus in almost a decade of experience for the management of chronic intractable pain of malignant and non-malignant origin.

Methods:

A retrospective series of 58 patients treated with radiosurgery to the medial thalamus for refractory neuropathic pain or mixed cancer pain using single thalamic irradiation, bilateral thalamotomy, dual target irradiation of the medial thalamus and trigeminal nerve or triple target irradiation of the hypophysis and bilateral thalami.

Results:

Pain intensity was significantly reduced at final follow up for patients treated with triple target radiosurgery (Student's T, *p<.001), dual target radiosurgery (Wilcoxon's W, *p<.001) and single/bilateral thalamotomy (Wilcoxon's W *p=0.01). Median time to response was 2.5 days for triple target, three days for dual target, 24 for bilateral thalamotomy and nerve irradiation, 1.50 for bilateral thalamotomy, and 33 for single thalamotomy. Overall treatment success categorized as at least 50% or more pain relief for the complete series including oncological and non-oncological pain was 69.1%, specifically for oncological pain the treatment success was 66.6% and for non-oncological pain 71.7%.

Conclusion(s):

Radiosurgical irradiation of the medial thalamus can be considered an effective alternative for the treatment of refractory cancer pain and mainly neuropathic non oncological pain. Different radiosurgical regimens can be applied in a multitarget strategy depending on the origin and the characteristics of pain, it can provide pain relief in most patients with no significant morbidity.