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Abstract

Published 04/02/2023

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Pantaleo Romanelli ¹, Francesco Tuniz ², Sara Fabbro ³, Giancarlo Beltramo ⁴

1. Neurosurgery, Cyberknife Center, Centro Diagnostico Italiano, Milano, ITA 2. Department of Neurosurgery, Azienda Ospedaliero Universitaria di Udine, Piazzale S.Maria della Misericordia 33100 Udine – Italy, Udine, ITA 3. Neurosurgery, Universitaria di Udine, Udine, ITA 4. Radiation Oncology, Cyberknife Center, Centro Diagnostico Italiano, Milano, ITA

Corresponding author: Pantaleo Romanelli, radiosurgery2000@yahoo.com**Categories:** Radiation Oncology, Neurosurgery**Keywords:** stereotactic radiosurgery, hypothalamic hamartomas**How to cite this abstract**

Romanelli P, Tuniz F, Fabbro S, et al. (April 02, 2023) Image-Guided LINAC Radiosurgery in Hypothalamic Hamartomas. Cureus 15(4): a839

Abstract

Objectives:

Hypothalamic hamartomas (HH) are developmental malformations associated with mild to severe drug-refractory epilepsy. Stereotactic radiosurgery (SRS) is an emerging non-invasive option for the treatment of small and medium-sized HH, providing good seizure outcomes without major neurological complications. We report our experience treating HH with frameless image-guided LINAC SRS.

Methods:

We retrospectively collected clinical and neuroradiological data of ten subjects with HH-related epilepsy that underwent frameless image-guided SRS.

Results:

All patients underwent single-fraction SRS using a mean prescribed dose of 16.27Gy (range 16–18Gy). The median prescription isodose was 79% (range 65–81Gy). The mean target volume was 0.64 cc (range 0.26–1.16 cc). Eight patients experienced complete or near complete seizure freedom (Engel class I and II). Five patients achieved complete seizure control within 4 to 18 months after the treatment. Four patients achieved Engel class II outcome, with stable results. One patient had a reduction of seizure burden superior to 50% (Engel class III). One patient had no benefit at all (Engel class IV) and refused further treatments. Overall, at the last follow-up, three patients experience class I, five class II, one class III and one class IV outcome. No neurological complication was found during follow-up.

Conclusion(s):

Frameless image-guided LINAC SRS is a safe and effective treatment option for small to medium sized HH providing good seizure control outcomes without neurological complications.