Glioma Stereotactic Radiosurgery

Gliomas is a relatively new indication for stereotactic radiosurgery (SRS). Traditionally, SRS has been considered to be an inadequate treatment for glial tumors as these are diffuse tumors, but SRS is a highly focused treatment. Tumor delineation can be challenging given the diffuse nature of the gliomas. It has been recommended to include the T2/fluid-attenuated inversion recovery (FLAIR) altered signal intensity areas in addition to the contrast-enhancing part in the treatment plan of glioblastoma in order to increase the coverage. Some have recommended including 5 mm margins to cover up for the diffusely infiltrative nature of the glioblastoma. The most common indication of SRS in patients with glioblastoma is tumor recurrence. SRS has also been used as a boost to the residual tumor or tumor bed after surgical excision before conventional radiotherapy. The addition of bevacizumab has been recently tried along with SRS in patients with recurrent glioblastoma to decrease radiation toxicity. Besides, SRS has also been used in patients with low-grade gliomas following recurrence. Brainstem gliomas, which are usually low-grade gliomas, are another indication of SRS. Outcomes following the use of SRS are comparable with external beam radiotherapy in brainstem gliomas, whereas the risks of radiation-induced complications are less. SRS has also been used in other glial tumors such as gangliogliomas and ependymomas [1].

see Glioblastoma Stereotactic Radiosurgery

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Garg K, Agrawal D. Role of Stereotactic Radiosurgery in Glial Tumors. Neurol India. 2023 Mar-Apr;71(Supplement):S207-S214. doi: 10.4103/0028-3886.373633. PMID: 37026354.