Abstract

Treatment of Orbital Lesions using CyberKnife
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The purpose of the research done was to evaluate the use of CyberKnife Stereotactic Radiosurgery (SRS) for treating orbital lesions. Efficacy and tolerability of such treatment was analyzed with data drawn from multiple sources, regarding dose and fractionation, quality of life following treatment(s) and prognosis. CyberKnife SRS is the newest, most advanced model of radiation delivery systems, featuring a robotic arm capable of manipulating the linear accelerator into thousands of unique angles. The addition of new angles allows for a more precise concentration of radiation delivered to the lesions. In the case of optic lesions, it is crucial to minimize dose to adjacent structures such as optic nerve, lens and fovea. CyberKnife SRS is superior for treatment in small anatomical locations due to steep dose gradients and target localization system, allowing maximum sparing of organs at risk. While CyberKnife SRS is rapidly becoming the gold standard for orbital lesions, there is still a likelihood that other treatments may be required as an adjunct therapy for treatment purposes. However, current research identifies the high success rate of CyberKnife SRS but acknowledges the need for further research in dosage and fractionation.

*Keywords: CyberKnife, Orbital Lesion, Radiation therapy, Cancer treatment*