Stereotactic Radiosurgery for Acromegaly: An International Multicenter Study

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Acromegaly results from the excessive secretion of growth hormone (GH) by a pituitary adenoma. The perpetually elevated levels of serum insulin-like growth factor 1 (IGF-1) have numerous clinical sequelae which are initially insidious but eventually increase the risk of overall morbidity and mortality, primarily due to adverse effects on the cardiovascular system. Surgical intervention with endoscopic or microscopic transsphenoidal resection of the GH-secreting pituitary adenoma is the first-line treatment for acromegaly. However, approximately 20-40% of surgically treated patients fail to achieve endocrine remission.

Stereotactic radiosurgery (SRS) has an important role in the postoperative management of acromegaly patients with residual or recurrent tumor. The literature regarding SRS for acromegaly remains limited to single-center studies, and variations in the success rates are considerable. Furthermore, we currently lack an adequate understanding of the factors associated with endocrine remission and SRS-induced complications. Therefore, the aims of this multicenter, retrospective cohort study are to (1) analyze the outcomes of SRS for persistent acromegaly following failed surgical resection and (2) determine the predictors of endocrine remission and hypopituitarism in acromegaly patients treated with SRS.
References


