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RESISTANCE TO FIRST GENERATION SOMATOSTATIN RECEPTOR LIGANDS DOES NOT IMPAIR THE RESULTS OF GAMMA KNIFE IN ACROMEGALY

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Introduction: The goals of the treatment of acromegaly are control of tumor mass, clinical symptoms, decrease GH and IGF-I. Surgery is the first-line treatment, but remission rate is variable. Somatostatin receptor ligands (SRL) therapy control GH and IGF-I excess in 50–60% of patients. Gamma knife radiosurgery (GKRS) has proven to be an attractive therapy to achieve goals of treatment. There are no data on the effect of the resistance to SRL on the outcome of GKRS, however it is commonly thought that SRL resistant patients may represent a subset of patients with a worse long-term outcome.

Objectives: The aim of our study was to investigate if the resistance to SRL affected the probability to obtain remission of disease after GKRS.

Methods: Ninety-six patients were included. The cumulative probability of normalization of IGF-1 levels after GKRS was assessed by the Kaplan-Meier method. The association of several clinical characteristics, with GKRS outcome was explored with the use of a Cox proportional-hazard model with the relative hazard ratio (HR) and 95% confidence interval (CI).

Results: Resistance to SRL occurred in 39 of the 96 patients (40.6%). The median duration of SRL treatment was 12 months (IQR 8-24 months, range 6-60 months). After GKRS, patients resistant to SRL had a 5- and 10-yr probability of remission of 40.7% (95% CI, 23.7 - 57.7%) and 75.9% (95% CI, 57.9 - 93.9%), respectively. Patients responder to SRL had a 5- and 10-yr probability of remission of 46.8% (95% CI, 32.2 - 61.4%) and 58.1% (95% CI, 41.5 - 74.7%), respectively. The difference was not significant ($p = 0.48$ by the Log-Rank test). Multivariate analysis confirmed that the only independent variables associated with GKRS outcome were basal GH ($P = 0.001$) and IGF-1 mULN levels ($P = 0.013$).

Conclusion: We demonstrated for the first time that resistance to SRL therapy had no effect on the probability to obtain remission of acromegaly after GKRS. GH and IGF-1 levels before GKRS were the only characteristics associated with GKRS outcome. These data permit to focus the attention on the tumoral characteristic to decide the follow up therapy for acromegalic patients after surgery, and to individualize the choice in the perspective of a personalized medicine.

Disclosure of Interest: None Declared