Long Term Outcomes Analysis for Glomus Jugulare Tumors Treated with Stereotactic Radiosurgery or Stereotactic Radiotherapy

Julio LB Pereira MD; Sergei Terterov MD; Elena I. Fomchenko PhD; Antonio DeSalles MD PhD; Alessandra A. Gorgulho MD; Tania B. Kaprealian; Michael T. Selch; Stephen Tenn; Isaac Yang MD

Department of Neurosurgery, David Geffen School of Medicine, University of California Los Angeles, USA

Introduction

The management of glomus jugulare tumors has evolved tremendously over the past several decades. As such, the overall optimal treatment strategies for this tumor are not yet fully elucidated.

Methods

A retrospective chart analysis was performed for all patients who underwent stereotactic radiosurgery (SRS) or stereotactic radiotherapy (SRT), for glomus jugulare tumors at the UCLA Medical Center over the last 20 years. Tumor stability was reported.

Table 1: Patients Characteristic at the UCLA

Total	12
Age	
Range	15-85
Mean	65,9
Sex	
Female	9
Presenting Symptoms	
Hearing Loss	8
Pulsative Tinnitus	2
Cranial Palsies	2
Previous Surgery	3

Results

Twelve patients met the inclusion criteria and were analyzed. 8 patients were treated with SRS receiving an average of 1280 cGy at the 90% isodose line, except one who received 1500 cGy at the 50% isodose line, in a single fraction. 4 patients were treated with SRT receiving an average of 4625 cGy at the 90% isodose line in an average of 25.8 fractions. All tumors remained stable in size or demonstrated regression at an average follow up of 4.4 years. No instances of tumor progression were observed in the SRS or SRT treatment groups at last follow up. Tumor regression was observed in 50% of SRT patients and 12.5% of SRS patients, however that difference was not statistically significant (P = 0.2). No radiation induced adverse effects were observed in the follow up period.

Conclusions

Our data suggests that SRS and SRT may be good alternatives to endovascular embolization or microsurgical resection of glumus jugulare tumors, with an excellent tumor control rate and little morbidity after long-term follow-up.

Learning Objectives

Optimal treatment strategies for glomus jugulare tumors

Figure 1: Dose distribution for a patient with Glomus Jugulare treated with radiosurgery.