

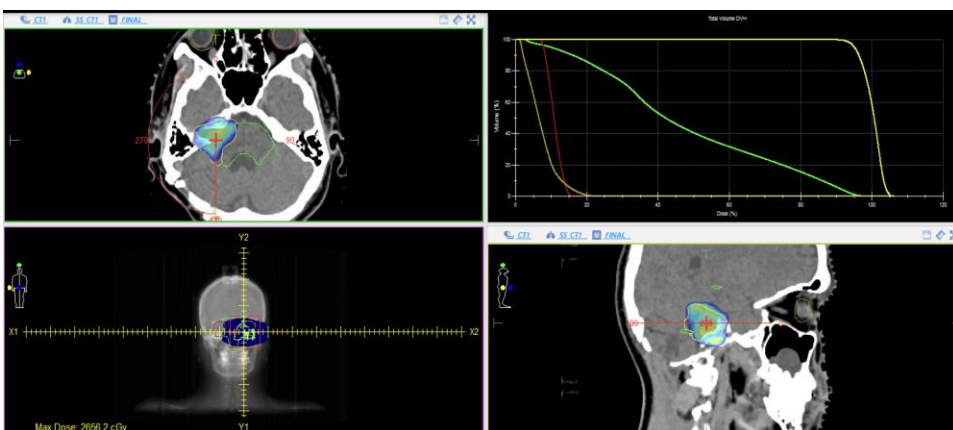
Dr Sanjay Hunugundmath DNB , Dr Mariya Deputy DNB , Dr Shreya diwedi DNB , Amit Nirhali MSc Vishram Naik MSc Sharad gadhve Bsc Hole Bhushan Bsc  
Sahyadri Superspeciality Hopsital , Hadapsar , Pune, India

## OBJECTIVE

Non-invasive treatment modalities, stereotactic radiosurgery (SRS) and fractionated stereotactic radiotherapy (FSRT) have emerged as effective alternatives to microsurgical resection in vestibular schwannomas (VS) offering favourable tumour control and preservation of neurological function. This is a retrospective review to assess the clinical outcomes , hearing rates and toxicity profiles post treatment with FSRT and SRS

## METHODS AND MATERIALS

50 patients were analysed retrospectively from May 2019- April 2025 .Radiologically diagnosed VS were taken up for either single fraction 12Gy SRS or FSRT to a dose of 25Gy in 5 fractions. All patients had KOOS staging , baseline Audiometry and hearing status was divided into servicable or non servicable based on Gardner Robertson grading. Hearing preservation was defined as maintaining Gardner-Robertson Class I-II at last follow-up. Chi square tests was used to compare hearing rates and log rank tests were used to assess local control. Toxicity assessment was done using CTCAE grading.



Structure	Volume (cm <sup>3</sup> )	Min. Dose (cGy)	Max. Dose (cGy)	Mean Dose (cGy)	Ref. Vol. (cm <sup>3</sup> )	Ref. Vol. (%)	Ref. Dose (cGy)	Dosimetric Criterion	% in Volume Is in SS	Heterogeneity Index	Conformity Index
PTV_25	15.831	2166.3	2656.2	2505.3	15.039	95.00	2378.7		100.00 yes	1.09	0.00
CHIASM	0.282	654.8	844.2	749.7					100.00 yes	1.22	
BRAINSTEM	34.460	63.7	2507.2	1181.7	0.030	0.09	2448.5		100.00 yes	9.14	0.00
OPTICTRACT	1.662	344.2	1012.0	637.3					100.00 yes	2.10	0.00
COCHLEAR	0.503	1945.4	2514.3	2325.6	0.030	5.96	2470.8		100.00 yes	1.19	0.00
patient(Unsp.Tiss.)	4806.519	0.3	2629.2	130.7					100.00 no	271.09	0.01

## RESULTS

The median follow up 48 months ( 6-72m) . The median PTV volume for srs and Fsrt was 1.40 and 8.46 respectively.No significant difference between SRS and FSRT were found with respect to hearing preservation(p=0.90). The local control at a 2, 3 and 4 years were 100,%92,% and 90 % respectively, in both the groups(0.99). None required any form of salvage treatments or re radiation Treatment-related toxicity was mild or moderate, in general not exceeding CTCAE Events grade 2.

## CONCLUSION

“Frameless FSRT and SRS treatment of VS results in good rate of tumor control ,hearing preservation rate and a favourable toxicity profile rates as to what is reported in the literature. Patients choose this modality because of its non-invasive nature and are generally very satisfied with their long term