



# **Analysis of the Efficacy of Gamma Knife in treating Primary Trigeminal Neuralgia**

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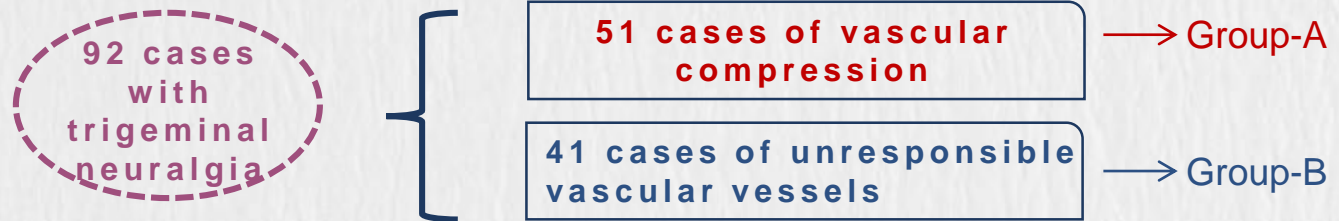


## Objective:

- To **explore** the efficacy of GammaKnife in the treatment of patients with primary trigeminal neuralgia;
  - to **study** the difference in efficacy of gamma knife treatment of vascular-free and vascular compression of trigeminal neuralgia,
  - to **provide** a basis for clinical treatment.
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# Methods:

➤ Retrospective analysis of 92 cases of trigeminal neuralgia ( August 2015 to August 2018). Divided into two Groups:



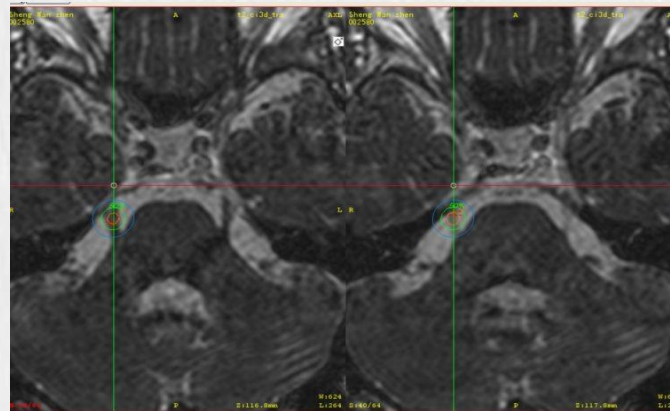
➤ by Infini Masep Rotating Gammaknife

➤ Treatment : **target:** the emergence fo the Trigeminal Nerve

1-2 Isocenters ;4mm collimator,

**plan:** isodose: 50%;

Prescription Dose:42-43Gy( center:84-86Gy);





# Results: follow-up time 11-38 months (an average 14 months)

Items	onset time	mean time
pain relief	1d to 8 m	5.6 m
facial numbness	3 to 6 m	8.4 m
recurrence	10-24 m	13.7 m

**Chart 1:** Pain relief occurs 1 day - 8 months after treatment (median time 5.6 months), facial numbness occurs 3 months to 16 months after treatment (median time 8.4 months), recurrence occurs in 10-24 months

group	pain level	number	percent
group A	I	21/51	41.20%
	II-III	21/51	
	IV	5/51	
	overall effective	47/51	92.20%
group B	V	4/51	7.84%
	I	19/41	46.30%
	II-III	15/41	
	IV	4/41	
	overall effective	38/41	92.70%
	V	3/41	7.32%

**Chart 2:** according to Alpert pain level : after treatment, for microvascular group : 21 patients have a class I pain rating (41.2% cure rate), 21 patients have a class II-III pain rating, 5 patients have a class IV pain rating (Totaling 47 cases having Class I.-IV pain, effective rate of 92.2%), 4 patients have a class V pain rating. For non-vascular compression group after treatment, 19 patients have a class I pain rating (46.3% cure rate), 15 patients have a class II-III pain rating, 4 patients have a class IV pain rating (Totaling 38 cases having Class I.-IV pain, effective rate of 92.7%), 3 patients have a class V pain rating. There were 11 cases of facial numbness after treatment in the microvascular compression, with a complication rate of 21.57%. There were 10 cases of facial numbness in the non-vascular compression group, with a complication rate of 24.39%. 6 cases of pain recurrence within 10-24 months of treatment (2 cases in the vascular compression group and 4 cases in the non-vascular compression group).

Group	Pain freedom	facial numbness	recurrence
groupA (n=51)	47 (92.16%)	11 (21.57%)	4 (7.84%)
groupB (n=41)	38 (92.68%)	10 (24.39%)	2 (4.88%)
overall (n=92)	84 (92.31)	22 (24.18%)	6 (6.52%)

**Chart 3:** Statistical analysis showed no statistical difference between the two groups of patients in terms of cure rate and efficiency ( $P > 0.05$ ). The same is true in complication incidence and recurrence rate in the two groups of patients ( $P > 0.05$ ).

## Conclusion:

- **No Difference** showed between unresponsive vascular vessels in the **cure rate** and **effective rate** of the trigeminal neuralgia, the **associated side effects** and **the recurrence rate**.
- Gamma knife **can be used** as one of the preferred treatments for Primary Trigeminal Neuralgia.



**Thank you  
for your time**

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