For the advancement of stereotactic radiosurgery, it provides another treatment choice for the patient who refuses surgical intervention or cannot tolerate operation for underlying diseases.

We tried to study the prognostic factors of the trigeminal neuralgia patients who were treated by CyberKnife.

31 patients who have been treated by CyberKnife since 2008 to 2013 in National Taiwan University Hospital. 21 cases were included. (M:F = 6:15, Mean age: 68.38±13.29) and all 21 cases were followed for at least 3 years.

We divided these 21 cases into optimal outcome, and poor outcome group by Modified Marseille Scale. The optimal outcome is defined as MMS Class I ~ IV without recurrence (n=12) in follow-up period and the treatment failure group is defined as MMS Class V ~ VI (n = 9).

The Cyberknife protocol for trigeminal neuralgia: All plans used a single 4-mm isocenter. The isocenter was placed on the trigeminal nerve with the 20% isodose line tangential to the pontine surface. The maximum dose to the brainstem surface was 18 Gy. All patients were treated with the 90-Gy maximum dose to the trigeminal nerve.

Radiosurgery was effective choice in elder trigeminal neuralgia patients with competitive treatment outcome and minimal adverse effects. Elders may benefit more than younger patients.