

> [Nuklearmedizin](#). 2021 Apr 9. doi: 10.1055/a-1429-1967. Online ahead of print.

Intracranial ¹³¹I-chTNT Brachytherapy in Patients with Deep-Seated Glioma: A Single-center Experience with 10-Year Follow-up from China

Ming Zhao ¹, Xiangping Fu ¹, Zhiwen Zhang ¹, Anmin Li ¹, Xiaopeng Wang ¹, Xuexiu Li ¹

PMID: 33836553

Abstract in English, [German](#)

Objective: The intracranial brachytherapy has been applied for decades, however, no results with long-term follow-up have been reported. This study investigated the long-term efficiency of intratumoral injection of ¹³¹I-chTNT in patients with deep-seated glioma.

Method: Thirty-five patients undergoing ¹³¹I-chTNT brachytherapy between December 2004 and May 2009 were enrolled. ¹³¹I-chTNT was injected at a dose of 1.5 mCi/cm³ at an interval of 1 month for consecutive 3 times. Serial ECT scan and MRI were performed during follow-up. Progression-free survival (PFS) and overall survival (OS) were analyzed. Adverse reactions were graded with WHO Toxicity Grading Scale for determining the severity of adverse events.

Results: ECT scan showed that enhanced accumulation of radioactive agents in the tumor lasted for more than 30 days. Three months after final injection, tumor complete remission (CR) was observed in 4 patients (11.4 %), partial remission (PR) in 11 cases (31.4 %), stable disease (SD) in 10 cases (28.6 %) and progressive disease (PD) in 10 cases (28.6 %). At 6-month, CR, PR, SD and PD were 2, 6, 12 and 15 respectively. After 10 years of follow-up, median progression-free survival (PFS) and overall survival (OS) were 5.4 and 11.4 months. One-year survival was 45.7 %, two and five-year survival was 8.6 %, ten-year survival was 5.7 %. Multivariate analysis showed that pathological grade and tumor diameter were independent prognostic factors for PFS and OS. Grade I-II adverse events occurred after drug injection, including nausea, fever, headache, hairloss and fatigue.

Conclusion: ¹³¹I-chTNT intracranial brachytherapy is efficient and safe for patients with deep-seated glioma. It is a reliable option for inoperable glioma patients.

Thieme. All rights reserved.