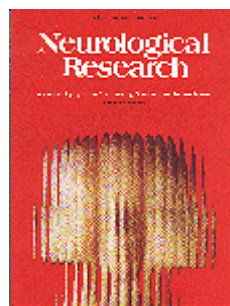


Loss of heterozygosity analysis in an anaplastic oligodendroglioma arising after radiation therapy



Authors: Hata, Nobuhiro¹; Shono, Tadahisa¹; Mizoguchi, Masahiro¹; Matsumoto, Kenichi¹; Guan, Yanlei¹; Nagata, Shinji¹; Hayashi, Kenshi²; Iwaki, Toru³; Sasaki, Tomio¹

Source: [Neurological Research](#), Volume 29, Number 7, October 2007, pp. 723-726(4)

Publisher: [Maney Publishing](#)

[< previous article](#) | [next article >](#) | [view table of contents](#)

◀mark item

Key: [F](#) - Free Content [N](#) - New Content [S](#) - Subscribed Content
[T](#) - Free Trial Content

Abstract:

Objective and importance: Oligodendroglial tumors rarely occur after radiation therapy. Here, we report a rare case of anaplastic oligodendroglioma arising after radiation therapy, in which genetic analysis was performed.

Clinical presentation and intervention: A 41-year-old man who had received radiation therapy for a tumor of the suprasellar and pineal regions 31 years previously, presented with headache and progressive right hemiparesis. Magnetic resonance (MR) images revealed a ring-enhanced mass lesion in the left frontal lobe. Total removal of the tumor was performed through left frontoparietal craniotomy, and the histologic diagnosis was anaplastic oligodendroglioma. Using 23 microsatellite markers, the allelic status of chromosomes 1p, 10, 17p and 19q was evaluated by a PCR-based loss of heterozygosity (LOH) assay. Markers on chromosomes 1p, 17p and 19q revealed LOH, but none of the markers on chromosome 10 showed LOH. Based on the genetic analysis, this tumor was considered to be sensitive to chemotherapy. Two courses of chemotherapy, with procarbazine, ACNU and vincristine, were performed. However, tumor recurrence was detected only 3 months after the surgery. Despite additional radiochemotherapy, the tumor aggressively increased in size and the patient died with multiple recurrent tumors 1 year after surgery.

Conclusion: The anaplastic oligodendroglioma presented in this report showed a more aggressive clinical course than was expected from the genetic analysis. The significance of 1p and 19q LOH in radiation-induced oligodendroglial tumors might differ from that in spontaneous counterparts.

Keywords: ANAPLASTIC OLIGODENDROGLIOMA; CHEMOSENSITIVITY; LOSS OF HETEROZYGOSITY; RADIATION-INDUCED TUMOR; RADIATION THERAPY

Document Type: Research article

DOI: 10.1179/016164107X208068

Affiliations: 1: Department of Neurosurgery, Graduate School of Medical Sciences, Medical Institute of Bioregulation, Kyushu University, Fukuoka, Japan **2:** Division of Genome Analysis, Research Center for Genetic Information, Medical Institute of Bioregulation, Kyushu University, Fukuoka, Japan **3:** Department of Neuropathology, Graduate School of Medical Sciences, Medical Institute of Bioregulation, Kyushu University, Fukuoka, Japan

The full text article is available for purchase

\$ 48,00 plus tax

Buy now **Credit/debit card** **Institutional**

payment account

OR

Add to cart Purchase later

[< previous article](#) | [next article >](#) | [view table of contents](#)

[Back to top](#)

Key: **F** - Free Content **N** - New Content **S** - Subscribed Content
T - Free Trial Content

Website © 2008 Ingenta. Article copyright remains with the publisher, society or author(s) as specified within the article.

[Terms and Conditions](#) | [Privacy Policy](#) | [Information for advertisers](#)