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1: [J Clin Neurosci](#). 2009 May;16(5):626-9. Epub 2009 Mar 5.



### **Gamma knife radiosurgery for multiple brain metastases from lung cancer.**

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The aim of this study was to compare the effectiveness of gamma knife radiosurgery (GKS) for the treatment of multiple brain metastases from lung cancer with that of whole brain radiation therapy (WBRT). Patients with multiple (2-20) brain metastases were divided into two groups for initial brain tumor management: a GKS group (14 patients) and a WBRT group (19 patients). The patients were stratified by gender, age, initial Karnofsky performance status score, control of the primary site, known extracranial metastases, number of brain metastases, diameter of the maximal lesion, chemotherapy, and recursive partitioning analysis (RPA) Class. The 6-month and 1-year overall survival rates were 64.3% and 47.7%, respectively, in the GKS group, and 42.1% and 10.5%, respectively, in the WBRT group. The median survival time was 32 weeks in the GKS group and 24 weeks in the WBRT group. The overall survival time in the GKS group was significantly longer than in the WBRT group ( $p=0.04$ ). The univariate analysis suggests that survival was increased in both patients with a controlled primary tumor site and in the GKS group ( $p=0.03$ ,  $0.04$ ). The use of GKS in patients with multiple brain metastases significantly improved patient survival compared to the employment of WBRT. When we assessed the subgroups, systemic disease control and GKS were significant variables by univariate analysis.

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