

PubMed

U.S. National Library of Medicine
National Institutes of Health

Display Settings: Abstract



J Clin Oncol. 2011 Jan 20;29(3):279-86. Epub 2010 Dec 6.

Phase III trial of prophylactic cranial irradiation compared with observation in patients with locally advanced non-small-cell lung cancer: neurocognitive and quality-of-life analysis.

Sun A, Bae K, Gore EM, Movsas B, Wong SJ, Meyers CA, Bonner JA, Schild SE, Gaspar LE, Bogart JA, Werner-Wasik M, Choy H.

Princess Margaret Hospital-University Health Network, University of Toronto, 610 University Ave, Toronto, Ontario, Canada, M5G 2M9. alex.sun@rmp.uhn.on.ca

Abstract

PURPOSE: There are scant data regarding the effects of prophylactic cranial irradiation (PCI) on neurocognitive function (NCF) and quality of life (QOL). Radiation Therapy Oncology Group trial 0214 showed no overall survival (OS) benefit for PCI in stage III non-small-cell lung cancer (NSCLC) at 1 year. However, there was a significant decrease in brain metastases (BM). This analysis focuses on the impact of PCI on NCF and QOL.

PATIENTS AND METHODS: Patients with stage III NSCLC who completed definitive therapy without progression were randomly assigned to PCI or observation. NCF was assessed with Mini-Mental Status Examination (MMSE), Activities of Daily Living Scale (ADLS), and Hopkins Verbal Learning Test (HVL). QOL was assessed with the European Organisation for Research and Treatment of Cancer (EORTC) core tool (QOL Questionnaire-QLQC30) and brain module (QLQBN20).

RESULTS: There were no statistically significant differences at 1 year between the two arms in any component of the EORTC-QLQC30 or QLQBN20 ($P > .05$), although a trend for greater decline in patient-reported cognitive functioning with PCI was noted. There were no significant differences in MMSE ($P = .60$) or ADLS ($P = .88$). However, for HVL, there was greater decline in immediate recall ($P = .03$) and delayed recall ($P = .008$) in the PCI arm at 1 year.

CONCLUSION: PCI in stage III NSCLC significantly decreases the risk of BM without improving 1-year OS. There were no significant differences in global cognitive function (MMSE) or QOL after PCI, but there was a significant decline in memory (HVL) at 1 year. This study provides prospective data regarding the relative risks and benefits of PCI in this setting and the need to use sensitive cognitive assessments.

PMID: 21135267 [PubMed - indexed for MEDLINE]

Publication Types, MeSH Terms

LinkOut - more resources