P. A. Bradbury, P. Twumasi-Ankrah, K. Ding, N. B. Leighl, G. D. Goss, S. Laurie, F. A. Shepherd, L. Seymour; NCIC CTG, Queen's University, Kingston, ON, Canada; Princess Margaret Hospital, University of Toronto, Toronto, ON, Canada; Ottawa Hospital, University of Ottawa, Ottawa, ON, Canada

Abstract:

Background: NSCLC patients (pts) with brain metastases (BMet) commonly are excluded from participating in clinical trials (CTs), based on perceptions of inferior outcomes. We evaluated the validity of this exclusion criterion, by investigating the OS of stage IV NSCLC pts with (BMet) and without (non-BMet) a prior history of BMet recruited to NCIC CTG CTs. **Methods:** This pooled analysis utilized data from BR.18 (paclitaxel/ carboplatin [PC] ± MMPI [BMS275291]), BR.21 (erlotinib vs. placebo), BR.24 (PC± VEGFR TKI [AZD2171]). Each trial permitted entry of pts with neurologically stable BMet, provided they had been treated and off corticosteroids (BR.24), or either treated or not but without corticosteroids (BR.18), or on a stable corticosteroid dose (BR.21). The primary end-point of these analyses was OS, evaluated in the pooled pt cohorts stratified by treatment arm, and in each trial individually. **Results:** Of 1,349 stage IV pts, 131 had a history of BMet. Of these, 103 (78%) pts had cranial radiation prior to randomization and 15 (11%) prior craniotomy. The median age of the BMet cohort was 56yrs vs. 61yrs for non-BMet cohort. There was no difference in baseline PS (BMet: PS 0-1 vs. 2 vs. 3 =74% vs. 21% vs.5%; non-BMet: 81% vs. 16% vs. 4%, p=0.16), weight loss (p=0.73) or hemoglobin (p=0.80) between the two cohorts. Female gender (41% vs. 33%, p=0.04) and adenocarcinoma (66% vs. 51%, p=0.005) was more common in the BMet cohort. There was no OS difference between the BMet and non-BMet cohort in the pooled analysis, stratified by trial (HR 1.05, 95%CI 0.85-1.28, stratified log-rank p=0.67), or in multivariate analysis adjusted for baseline covariates (AHR 1.12, 95%CI 0.91-1.37, p=0.31). There was also no OS difference between BMet and non-BMet pts when evaluated in each individual trial separately. **Conclusions:** Pts with a prior history of BMet have a similar OS to those pts without BMet in NSCLC in NCIC CTG CTs. In neurologically stable pts, BMet, should not be an exclusion criterion, while discontinuation or stable dose of corticosteroids appears a reasonable eligibility requirement.