ABSTRACT CITATION ID: NOAD179.0438
EPID-06. TARGETED AGENTS IN PATIENTS WITH RECURRENT GLIOBLASTOMA– A SYSTEMATIC META-ANALYSIS OF RANDOMIZED CLINICAL TRIALS

Franziska Maria Ippen[1], Angelika Scherm[2], Tobias Kessler[3], Peter Hau[4], Hansjörg Baurecht[5], Wolfgang Wick[6], Helge Knüttel[7], Michael F. Leitzmann[5], and Corinna Seliger[1]; [1]Heidelberg University Hospital, Department of Neurology, Heidelberg, Baden-Wurttemberg, Germany, [2]Regensburg University Hospital, Department of Neurology, Regensburg, Bayern, Germany, [3]Dept. of Neurology, Heidelberg University Hospital, Heidelberg University,, Heidelberg, Baden-Wurttemberg, Germany, [4]Department of Neurology and Wilhelm Sander-NeuroOncology Unit, University Hospital Regensburg, Regensburg, Germany, Regensburg, Germany, [5]Regensburg University Hospital, Institute of Epidemiology and Preventive Medicine, Regensburg, Bayern, Germany, [6]Universitatsklinikum Heidelberg, Heidelberg, Baden-Wurttemberg, Germany, [7]Regensburg University Hospital, University Library, Regensburg, Bayern, Germany

BACKGROUND: Glioblastoma (GB) is the most common malignant primary brain tumor in adults and associated with a dismal prognosis. While the standard of care for newly diagnosed GB is defined in current treatment guidelines, recommendations for recurrent GB are less well established. The current systematic meta-analysis of recently published randomized controlled trials (RCTs) represents the strongest available evidence on targeted agents in patients with recurrent GB. METHODS: Cochrane Library, Pubmed, MEDLINE (Ovid), ClinicalTrials.gov, WHO's International Clinical Trials Registry Platform and Google Scholar were searched ranging from the year 1954-2022 for RCTs of targeted therapies in patients with recurrent GB. Hazard Ratios (HRs) of overall survival (OS) and progression-free survival (PFS) were extracted to perform a random-effects meta-analysis. RESULTS: 16 RCTs (n=3,025 patients) were included in the meta-analysis. Experimental treatment was either compared to lomustine (CCNU) alone, in combination with CCNU/temozolomide (TMZ) to CCNU alone or to bevacizumab alone. In these three subgroups, targeted agents associated with improved OS compared to the control arm were regorafenib (RR= 0.50; 95% CI 0.33-0.75), Depatux- M+ TMZ (RR= 0.66; 95% CI 0.44-0.93) and rindopepimut + bevacizumab (RR= 0.53; 95% CI 0.32-0.88). Treatment with bevacizumab + CCNU (RR= 0.49; 95% CI 0.35-0.69) and regorafenib (RR= 0.65; 95% CI 0.44-0.95) were associated with improved PFS. CONCLUSION: In this systematic meta-analysis, we provide the current highest level of evidence for the role of targeted therapies in recurrent GB. Even though some studies revealed a benefit either for OS and/or PFS, results have to be critically reviewed regarding initial distribution of prognostic factors, underlying molecular mechanisms, sample size and trial design. There is a need for more specific and personalized study designs using newly obtained tumor tissue and close monitoring of treatment responses to allow for potential modification of treatment if needed.

DOI: 10.1093/neuonc/noad179.0438