

PubMed

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

Display Settings: Abstract

[JAMA](#). 2011 Feb 2;305(5):487-94.

Treatment-Related Mortality With Bevacizumab in Cancer Patients: A Meta-analysis.

Ranpura V, Hapani S, Wu S.

Medical Oncology, Stony Brook University Cancer Center, 9447 SUNY, Stony Brook, NY 11794-9447.
shenhong.wu@stonybrook.edu.

Abstract

Context Fatal adverse events (FAEs) have been reported in cancer patients treated with the widely used angiogenesis inhibitor bevacizumab in combination with chemotherapy. Currently, the role of bevacizumab in treatment-related mortality is not clear. **Objective** To perform a systematic review and meta-analysis of published randomized controlled trials (RCTs) to determine the overall risk of FAEs associated with bevacizumab. **Data Sources** PubMed, EMBASE, and Web of Science databases as well as abstracts presented at American Society of Clinical Oncology conferences from January 1966 to October 2010 were searched to identify relevant studies. **Study Selection and Data Extraction** Eligible studies included prospective RCTs in which bevacizumab in combination with chemotherapy or biological therapy was compared with chemotherapy or biological therapy alone. **Summary** incidence rates, relative risks (RRs), and 95% confidence intervals (CIs) were calculated using fixed- or random-effects models. **Data Synthesis** A total of 10 217 patients with a variety of advanced solid tumors from 16 RCTs were included in the analysis. The overall incidence of FAEs with bevacizumab was 2.5% (95% CI, 1.7%-3.9%). Compared with chemotherapy alone, the addition of bevacizumab was associated with an increased risk of FAEs, with an RR of 1.46 (95% CI, 1.09-1.94; $P = .01$; incidence, 2.5% vs 1.7%). This association varied significantly with chemotherapeutic agents ($P = .045$) but not with tumor types ($P = .13$) or bevacizumab doses ($P = .16$). Bevacizumab was associated with an increased risk of FAEs in patients receiving taxanes or platinum agents (RR, 3.49; 95% CI, 1.82-6.66; incidence, 3.3% vs 1.0%) but was not associated with increased risk of FAEs when used in conjunction with other agents (RR, 0.85; 95% CI, 0.25-2.88; incidence, 0.8% vs 0.9%). The most common causes of FAEs were hemorrhage (23.5%), neutropenia (12.2%), and gastrointestinal tract perforation (7.1%). **Conclusion** In a meta-analysis of RCTs, bevacizumab in combination with chemotherapy or biological therapy, compared with chemotherapy alone, was associated with increased treatment-related mortality.

PMID: 21285426 [PubMed - in process]