

Amrubicin for relapsed Extensive-Disease small-cell lung cancer: a systematic review and meta-analysis

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Abstract

Background: Amrubicin (AMR), a third-generation anthracycline and potent topoisomerase II inhibitor, has been known to be effective treatment for previously treated Extensive-Disease Small-Cell Lung Cancer (ED-SCLC). However, the efficacy and toxicity of amrubicin remains conflicting. Thus, this meta-analysis was designed to evaluate amrubicin effectiveness in refractory ED-SCLC patients. Methods: Pubmed, Embase, Cochrane library databases were searched for the relevant articles. After rigorous evaluation on quality, the data extraction process was carried on eligible randomized controlled trials (RCTs). Meta-analysis Revman 5.3 software was used for statistical analysis. Results: A total of 7 RCTs were included in our analysis. The regimen of AMR was associated with better progression-free survival (PFS) (OR=0.81, 95%CI=0.71-0.92, P=0.001), and the objective response rate (ORR) (OR=1.83, 95%CI=1.37-2.45, P<0.0001). While, there was no statistical significance found in terms of the overall survival (OS) (OR=0.90, 95%CI=0.79-1.03, P=0.12). The frequencies of the most common toxicities were more commonly occurred in the AMR group compared with the control group were neutropenia (OR=1.67, 95%CI=1.10-2.54, P=0.02) and anemia (OR=0.47, 95%CI=0.34-0.66, P<0.0001), respectively. Conclusion: AMR was associated with better efficacy and acceptable side effects for the treatment-refractory ED-SCLC. The findings revealed that amrubicin may be used as second-line chemotherapy for patients with sensitive-relapse ED-SCLC.

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