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## **Astragalus-based Chinese herbs and platinum-based chemotherapy for advanced non-small-cell lung cancer: meta-analysis of randomized trials.**

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### **Abstract**

#### **PURPOSE:**

Systemic treatments for advanced non-small-cell lung cancer have low efficacy and high toxicity. Some Chinese herbal medicines have been reported to increase chemotherapy efficacy and reduce toxicity. In particular, Astragalus has been shown to have immunologic benefits by stimulating macrophage and natural killer cell activity and inhibiting T-helper cell type 2 cytokines. Many published studies have assessed the use of Astragalus and other Chinese herbal medicines in combination with chemotherapy. We sought to evaluate evidence from randomized trials that Astragalus-based Chinese herbal medicine combined with platinum-based chemotherapy (versus platinum-based chemotherapy alone) improves survival, increases tumor response, improves performance status, or reduces chemotherapy toxicity.

#### **METHODS:**

We searched CBM, MEDLINE, TCMLARS, EMBASE, Cochrane Library, and CCRCT databases for studies in any language. We grouped studies using the same herbal combinations for random-effects meta-analysis.

#### **RESULTS:**

Of 1,305 potentially relevant publications, 34 randomized studies representing 2,815 patients met inclusion criteria. Twelve studies (n = 940 patients) reported reduced risk of death at 12 months (risk ratio [RR] = 0.67; 95% CI, 0.52 to 0.87). Thirty studies (n = 2,472) reported improved tumor response data (RR = 1.34; 95% CI, 1.24 to 1.46). In subgroup analyses, Jin Fu Kang in two studies (n = 221 patients) reduced risk of death at 24 months (RR = 0.58; 95% CI, 0.49 to 0.68) and in three studies (n = 411) increased tumor response (RR = 1.76; 95% CI, 1.23 to 2.53). Ai Di

injection (four studies; n = 257) stabilized or improved Karnofsky performance status (RR = 1.28; 95% CI, 1.12 to 1.46).

**CONCLUSION:**

Astragalus-based Chinese herbal medicine may increase effectiveness of platinum-based chemotherapy when combined with chemotherapy. These results require confirmation with rigorously controlled trials.

**Comment in**

- [Important bias in the Astragalus meta-analysis.](#) [J Clin Oncol. 2006]

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