

Phase I clinical trial of i.v. ascorbic acid in advanced malignancy

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Background: Ascorbic acid is a widely used and controversial alternative cancer treatment. In millimolar concentrations, it is selectively cytotoxic to many cancer cell lines and has *in vivo* anticancer activity when administered alone or together with other agents. We carried out a dose-finding phase I and pharmacokinetic study of i.v. ascorbic acid in patients with advanced malignancies.

Patients and methods: Patients with advanced cancer or hematologic malignancy were assigned to sequential cohorts infused with 0.4, 0.6, 0.9 and 1.5 g ascorbic acid/kg body weight three times weekly.

Results: Adverse events and toxicity were minimal at all dose levels. No patient had an objective anticancer response.

Conclusions: High-dose i.v. ascorbic acid **was well tolerated but failed to demonstrate anticancer activity** when administered to patients with previously treated advanced malignancies. **The promise of this approach may lie in combination with cytotoxic or other redox-active molecules.**

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