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Complementary and Alternative Medicine for Gliomas: Systematic Review and Critical Appraisal of Current Literature

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Abstract

Background: Many patients with glioma and their caregivers seek complementary and alternative medicine (CAM) methods to comfort themselves, cope with cancer medication side effects, and feel they are taking control of their disease.

Objective: To summarize existing evidence on safety and efficacy of CAM treatments for gliomas.

Methods: We performed an exhaustive electronic literature search for in vitro, animal, and clinical studies (English language, all years available) on CAM modalities for gliomas.

Results: A total of 378 studies (315 unique articles) were analyzed. Distribution was as follows: in vitro-274 (73%), animal-77 (20%), and clinical-26 (7%, 2491 patients). Most studies were conducted in China (n = 135, 43%), followed by the United States (n = 62, 20%) and Spain (n = 17, 5%-6%). Resveratrol was the most commonly investigated CAM therapy in the in vitro (n = 62) and in vivo (n = 17) setting. Safety/toxicity was examined in 21% of in vitro (cytotoxic at same dose in 48%), 39% of in vivo (no evidence of organ toxicity), and 50% of clinical studies (adverse events reported in 6). Cytotoxicity was the most frequent end point among in vitro (60%) and animal studies (56%), followed by synergistic action with chemotherapy and inhibition of invasiveness and migration. Finally, 7 of 26 studies found no clinical effect, whereas 5 reported possible impact on progression-free or overall survival, 3 demonstrated decrease or arrest of tumor progression, and 2 showed positive impact on symptoms and quality of life.

Conclusion: These findings will hopefully educate providers and patients and stimulate further research in the field of CAM therapy for gliomas.

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