



Role of Intravenous Glutathione and High-dose Vitamin C in Adult Acute Lymphoblastic Leukemia Adjunctive Therapy

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ABSTRACT

Introduction: Acute lymphoblastic leukemia (ALL) is rare and has poor prognosis in older adults. The challenging aspect of ALL management in adults is that the patient and leukemic factors are imperative components when designing the treatment regimen. Intravenous (IV) therapy increases bioavailability beyond oral administration and is one of the essential treatments utilized among licensed Naturopathic doctors (NDs). Glutathione (GSH) plays an important role in multiple pathways of programmed cell death, particularly in apoptosis. High-dose intravenous vitamin C (HDIVC) enhances immune function. This case report discussed an adult patient with ALL who received IV therapy while waiting for allogeneic stem cell transplantation (allo-SCT), one of the standard treatments to achieve remission.

Objective: The aim was to evaluate the effectiveness of IV GSH and HDIVC for an adult with ALL as adjunctive therapy.

Methods: A 43-year-old Hispanic female with an ALL relapse. The patient was a good candidate for allo-SCT. She was simultaneously treated with oral chemotherapy, while receiving adjunctive therapy, including multi-nutrients IV drips followed by a GSH push, HDIVC, nutraceuticals, botanicals, homeopathy, and nutritional counseling. We evaluated the effectiveness of the treatment regimen using subjective and objective measures: (1) blood pressure, (2) blood glucose, (3) energy rating scale, and (4) quality of life.

Results: IV multi-nutrient drip with GSH push alternated with HDIVC administered bi-weekly helped reduce fatigue and improved quality of life in this patient. No adverse events reported. However, the complete remission of ALL was delayed mainly due to the lack of insurance and the uniquely challenging pandemic related to coronavirus disease 2019 (COVID-19).

Conclusion: IV GSH and HDIVC are proven to be effective and safe adjunctive treatments to improve quality of life and extend life of an adult patient with ALL. This treatment regimen deserves consideration as an adjunctive therapy for similar patients.

Keywords: acute lymphoblastic leukemia; IV therapy; high dose vitamin C; glutathione