Safety and Efficacy of Turmeric in Children with Acute Lymphoblastic Leukemia

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Background

Gut microbiota may have a role in regulating the progress of cancer. Curcumin and its metabolites may have various effects on cancer treatments by eliminating intestinal microflora dysbiosis.

Objectives

To assess the safety and efficacy of curcumin in children with acute lymphoblastic leukemia (ALL) and whether gut microbiota can be used to predict therapy-related complications.

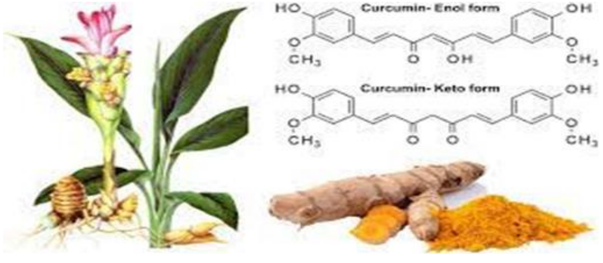


Figure1: Curcumin structure

Study Design/Setting

Design: Single-center, open-label prospective randomized controlled clinical trial.
Setting: Pediatric Hematology Oncology Department, Ain Shams University Hospitals, Cairo, Egypt.

Materials & Methods

- Clinical assessment
- Anthropometric measurement.
- Nutritional assessment using the Screening Tool for the Assessment of Malnutrition in Pediatrics (STAMP), and nutrition risk were assigned based on 3 parameters: nutrition implication of the patient's medical diagnoses, recent nutrition intake, and anthropometrics.
- CBC, total protein, and albumin
- Fecal samples were collected to detect microbiota quantity.

Intervention: A block-randomization scheme was generated by computer software

30 eligible children with ALL were enrolled from day 0 of presentation and followed over a 12-month period

SOC + Curcumin Supplementation	Standard of nutritional care only (SOC)
Curcumin 500mg supplemented orally twice daily for 1 month starting at week 1 of the maintenance phase of chemotherapy	SOC: a nutrition program through supplementation of a high-caloric, high-protein diet, tailored according to patients' age and sex

The majority of patients were under 10 years of age and presented mainly with fever at time of diagnosis. Their initial nutritional assessment showed STAMP scores of mainly 3 and 4.

Summary

The curcumin showed a safety profile and was tolerated by most patients. The effects of curcumin on microbiota were studied through assessment of the proportions of lactobacillus and Bifidobacterium in fecal samples, and the results are in the statistical analysis phase.

Conclusion

This interim analysis showed a promising role of curcumin as a nutritional supplement in children with ALL

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