Does vincristine chemotherapy decrease ankle dorsiflexion range of motion and lower extremity function in adults with Acute Lymphoblastic Leukemia?

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Research Questions/Methods

AIMS: To determine the effect of vincristine on DF-ROM and lower extremity function in adults with Acute Lymphoblastic Leukemia (ALL) treated with vincristine chemotherapy.

METHODS: Ankle dorsiflexion ROM was measured using a goniometer and Lower Extremity Functional Scale (LEFS) questionnaire was completed by participants pre & post chemotherapy.
RESULTS: AROM/PROM

- 18 patients with ALL, age 18+
- 1 withdrew
- Female sex 33.3%
- Median age 42.5 years
- Pediatric ALL protocol 33.3%
- Adult ALL protocol 66.7%

- Passive and Active ROM: No statistically significant change after vincristine.
Results: LEFS Questionnaire

- LEFS reduced by 26% from baseline after vincristine. No statistical significance.
- 8/17 participants (47%) indicated a decrease in function which is clinically significant.
Discussion & Limitations:

• Within our study there was no statistically significant change in ankle DF-ROM following vincristine.
• We found a clinically significant decrease in lower extremity function (47%) reported by our participants after chemotherapy.

Conclusions & Future Recommendations:

• Our study confirmed a clinically significant decline in LEFS score in adult ALL patients who received vincristine.
• Larger multi-centre studies are required to strengthen results.
• PT and OT services could be valuable in this group of patients undergoing chemotherapy and should be further studied.