



The 65th ASH Annual Meeting Abstracts

POSTER ABSTRACTS

613.ACUTE MYELOID LEUKEMIAS: CLINICAL AND EPIDEMIOLOGICAL

Trial in Progress: Investigating the Prognostic Significance of Malnutrition and Sarcopenia in Older Adults with Acute Myeloid Leukemia

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Background and Significance: For older adults (≥ 60 years) newly diagnosed with acute myeloid leukemia (AML), tumor-specific and patient-specific factors have been used to predict treatment-related mortality (TRM) and determine suitability for intensive antileukemic therapy. Comprehensive Geriatric Assessment (CGA) is a tool designed to comprehensively evaluate health among older adults. CGA assesses multiple health domains including physical function, cognition, nutrition, mental health, polypharmacy, comorbidities, and social support but does not currently incorporate body imaging. Sarcopenia is defined as loss of muscle mass and strength. It can be measured objectively by CT, DEXA or Bioimpedance Analysis (BIA) in combination with tests of muscle strength. It has been proposed as a more accurate nutritional marker compared to BMI or serum markers. Nearly all older adults with AML receive a CT scan during their cancer evaluation. Therefore, there is an opportunity to leverage CT sarcopenia measures to improve risk prediction. Our study aims to (1) assess the burden of malnutrition and sarcopenia in older adults with newly diagnosed AML undergoing induction and (2) determine the prognostic impact of traditional markers of nutrition and novel sarcopenia measures on TRM.

Study Design and Methods: This is a prospective, observational study of 82 newly diagnosed, older adult patients with AML undergoing induction treatment at the University of Chicago Comprehensive Cancer Center (NCT05458258). Key inclusion criteria include age ≥ 60 years and receipt of induction therapy for newly diagnosed AML. Key exclusion criteria include presence of a pacemaker or defibrillator. To assess Aim 1, newly diagnosed older adult patients with AML will be undergo a subjective global nutrition assessment and serum nutritional markers [prealbumin, albumin, CRP, ferritin]. Body composition (fat-mass, fat-free mass, lean mass) will be assessed using BIA and CT. Sarcopenia will be defined by the CT Skeletal Muscle Index (SMI) at L3 plus impairment on either maximal hand grip strength, 6-minute walk, Timed Up and Go test (TUG), the Short Physical Performance Battery (SPPB). Patients will also undergo an assessment of disability (instrumental activities of daily living (IADL) and activities of daily living (ADL) surveys), Short Physical Performance Battery [SPPB], and Montreal cognitive assessment [MOCA]) prior to starting induction. All measures will be repeated at the start of post-remission therapy. Results from both timepoints will be compared against healthy controls matched by age, sex and Charlson Comorbidity Index. Healthy control data will come from the *Frailty, Activity, Body Composition, and Energy Expenditure (FACE) Aging* dataset housed by the Department of Geriatrics at the University of Chicago, a 1-year longitudinal, observation study of frailty in older adults residing around the university. We will match 1 AML case to 1 control. In order to ensure that all subjects are matched, 2:1 propensity score matching will be used to generate matching controls for each case. To assess Aim 2, multivariable Cox proportional hazards regression models will be performed for each of those nutrition status and sarcopenia markers significant for TRM in univariate analysis. In multivariable analyses, we will control for age, European Leukemia Net 2022 risk stratification, ECOG PS, and CGA measures as covariates. A sample size of 82 patients will give us 80% power to detect a hazard ratio of 3.0 for TRM, the primary end point, for CT diagnosed sarcopenia using a Cox proportional hazards model with a 0.05 significance level and a 60-day mortality rate of 18%. We anticipate completion of enrollment within two years of study initiation. To date, 17 patients have been approached for consent with 11 patients enrolled. When complete, this trial will provide initial evidence

necessary to recommend nutritional assessment as a part of the Comprehensive Geriatric Assessment in all older adult AML patients. Furthermore, it may provide evidence to support a future interventional study assessing the impact of improved nutritional status on TRM.

Figure 1. NCT05458258 study schema.

Disclosures No relevant conflicts of interest to declare.

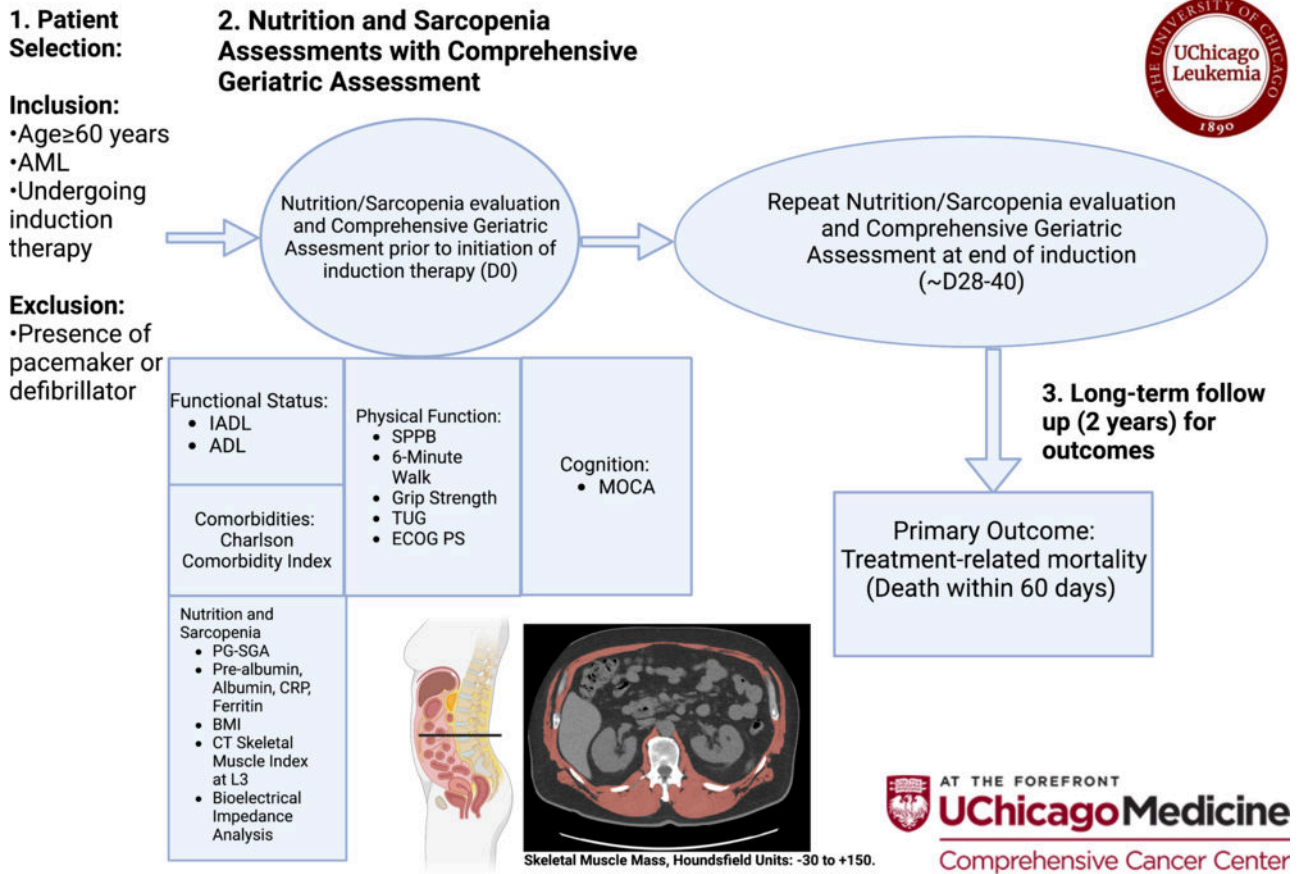


Figure 1

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