Impact of Frailty Assessment on The Outcome of Acute Myeloid Leukemia in Elderly Patients

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ABSTRACT

Background: Acute myeloid leukemia (AML) is the most common type of acute leukemia in adults. The incidence of AML increases with age. According to the Surveillance, Epidemiology, and End Results Program, over 57% of new cases of AML occur in adults aged 65 years or above (65–74 years: 23.7%; 75–84 years: 22.8%; and >84 years: 10.6%). **Objectives:** The objective of our study is to implement an applicable and representative frailty assessment tool for newly diagnosed elderly AML patients that helps the treating physician in choosing the optimal treatment decision. **Patients and Methods:** This prospective observational study was conducted in clinical hematology and bone marrow transplantation unit, Ain Shams university hospitals, Cairo, Egypt. The study included 32 newly diagnosed AML patients, aged ≥ 60 years and categorized into frail and non-frail groups using G8 and GAH Scores. The initial frailty scoring was correlated with the patients' outcome after 6 months, with the routinely used performance status score and the known disease prognostic markers. **Results:** We compared frail and non-frail groups regarding differences in mean age, molecular cytogenetic classification, hospital stay, response to treatment, and mortality rates. Frail patients had an older mean age, more favorable risk molecular cytogenetics, shorter hospital stays, poorer response to treatment, and higher mortality rates. The study also found that survival was lowest in patients with subtype M3. However, the overall incidence of complications did not show a significant correlation with frailty assessment or type of chemotherapy. **Conclusion:** Both G8 and GAH scores strongly predicted survival, independently of age, markers of disease risk, type of induction therapy. Our findings support using the G8 and GAH as an initial frailty assessment tool for newly diagnosed AML elderly patients. G8 is an easy to implement frailty assessment tool that should be widely implemented for elderly patients with hematological malignancies.

Keywords: Frailty, AML, Prognosis.