Mortality Rates and Risk Factors Among Neutropenic Active Acute Myeloid Leukemia Patients With Invasive Pulmonary Aspergillosis: A Retrospective Analysis From the United States

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Introduction

Acute myeloid leukemia (AML) patients are at risk of fungal infections like invasive pulmonary aspergillosis (IPA) due to chemotherapy-induced neutropenia.

Aim

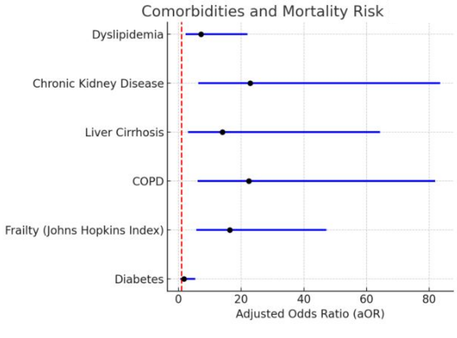
Identify predictors of all-cause mortality among neutropenic adults with active AML hospitalized for IPA.

Methods

- **Data Source:** National Inpatient Sample (2016–2022)
- **Population:** Adults with active AML hospitalized for IPA
- **Variables:** Age, sex, race, comorbidities, frailty (Johns Hopkins Frailty Index)
- **Analysis:** Multivariable regression; outcomes as aOR with 95% CI, P<0.05

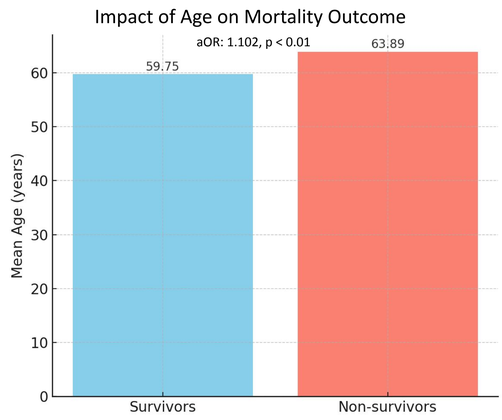
Table: Impact of Comorbidities and Frailty on Mortality

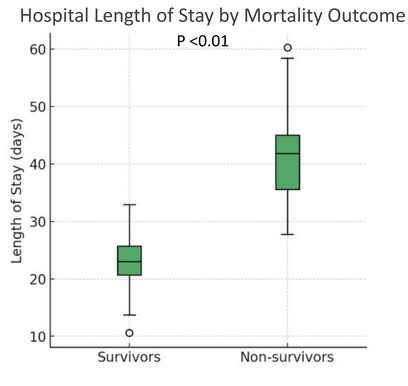
Condition	Adjusted Odds Ratio (aOR)	95% Confidence Interval (CI)	P-value
Dyslipidemia	7.133	2.313 – 21.995	<0.01
Chronic Kidney Disease (CKD)	22.869	6.264 – 83.497	<0.01
Liver Cirrhosis	13.997	3.051 – 64.219	<0.01
Chronic Obstructive Pulmonary Disease (COPD)	22.382	6.118 – 81.880	<0.01
Diabetes	1.729	0.561 – 5.333	0.340
Frailty (Johns Hopkins Index)	16.323	5.647 – 47.186	<0.01



Results

- **Overall Mortality:** 12.2% (90/735)
- Greater mortality in **Older** patients
- No difference in mortality between genders and races
- Greater mortality in patients with **HLD, CKD, Liver cirrhosis** and **COPD.**
- **Frailty** indicator of greater mortality





Conclusion

- Age, frailty, and certain comorbidities -> key predictors of mortality
- Early identification and prophylactic management in high-risk patients can reduce antifungal toxicity, resistance, and cost.