

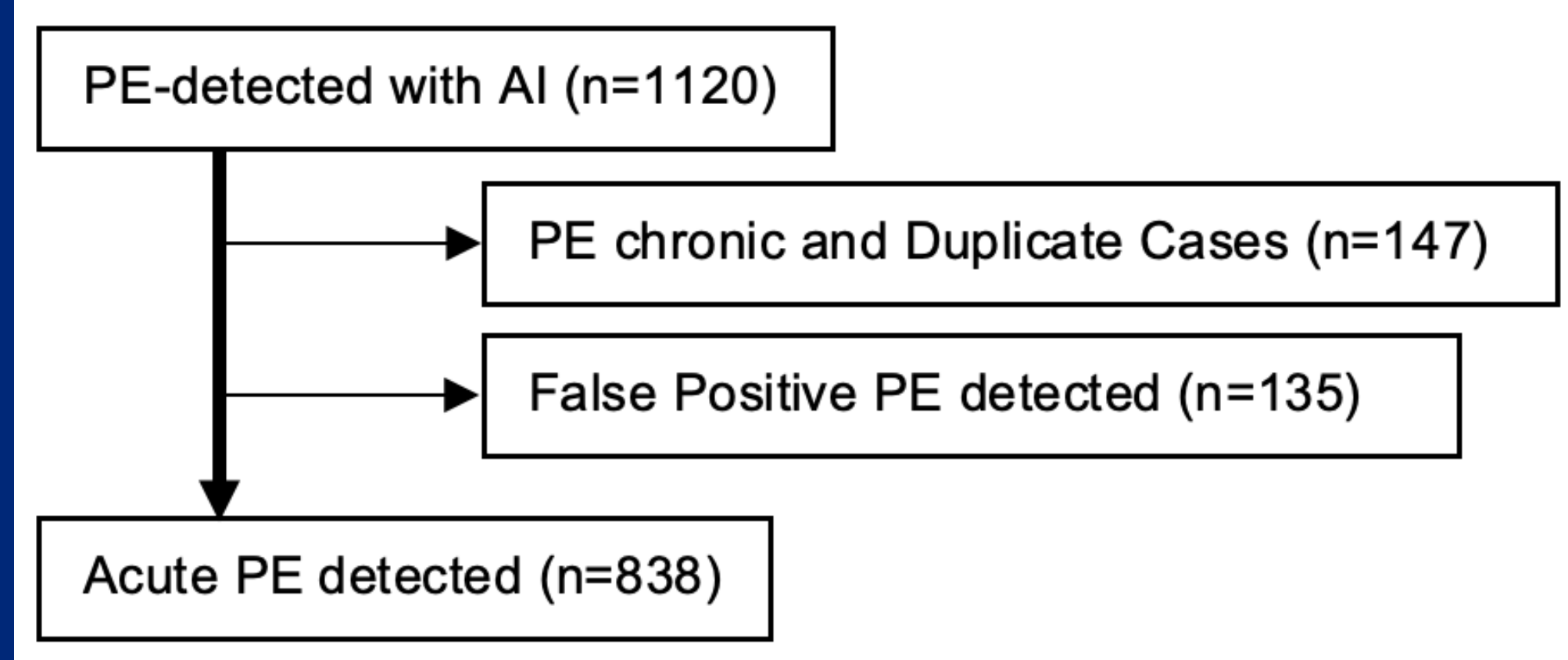
# Contemporary Clinical Presentation and Outcome of Acute Pulmonary Embolism Diagnosed by Artificial Intelligence

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## Introduction

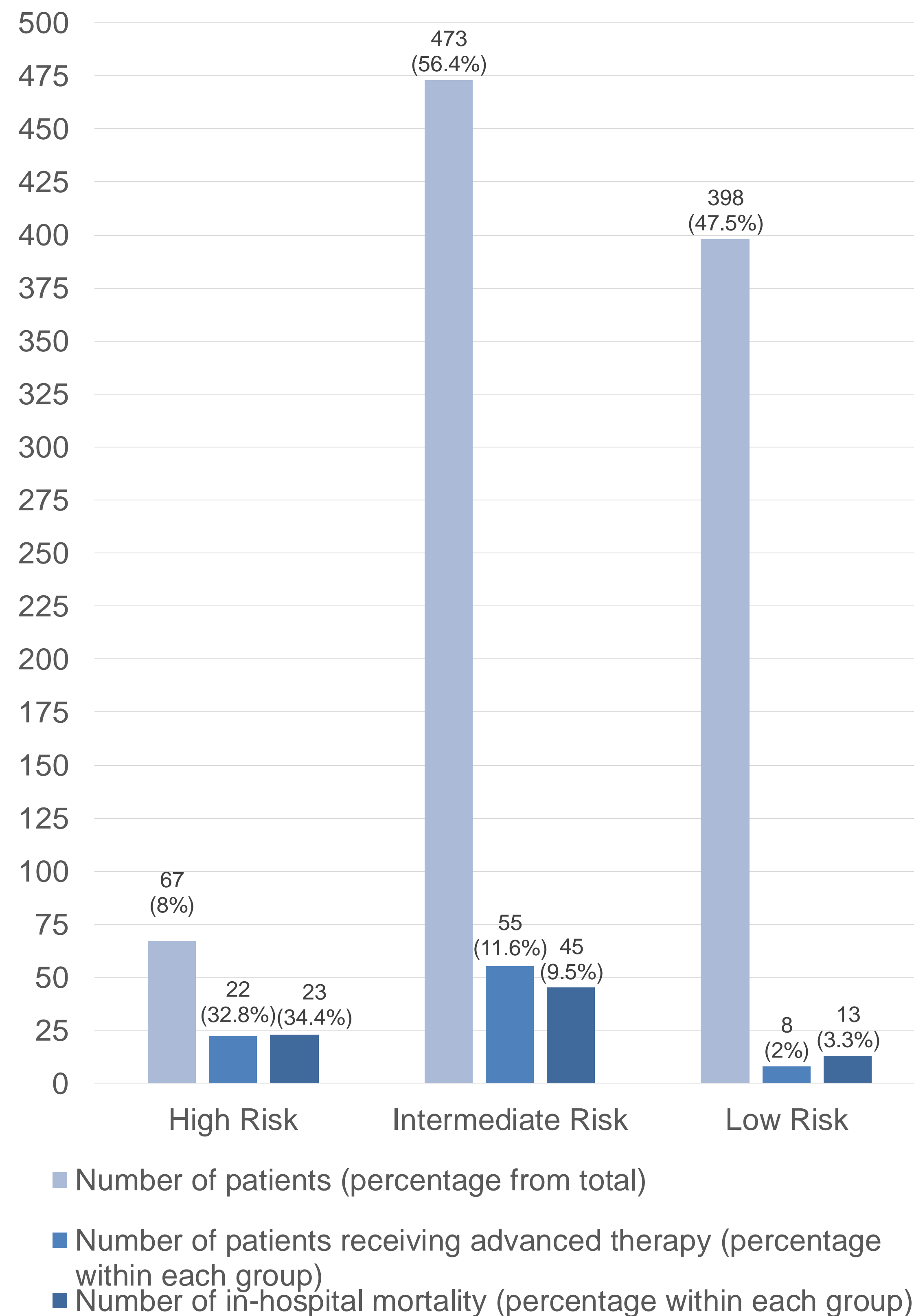
Artificial intelligence (AI) has been recently integrated into clinical practice to enhance prompt detection of PE on computed tomography (CT). We describe the presentation and outcomes of all patients diagnosed with PE by an FDA-approved AI algorithm at a single healthcare system.



## Methods

All cases automatically detected as an acute PE on CT from December 2023 to April 2024 at 6 urban hospitals were screened. The cohort included PE patients who were true positives. Patients were classified according to the severity of their clinical presentation.

PE presentation, advanced therapy and in-hospital mortality within risk group



## Results

Out of the 1120 cases detected, 838 were included. The average age was  $63 \pm 16$  years; 53.5% were female; 58% African American. A PE-protocol CT was ordered in 79.2% of cases; the remaining cases were incidental findings on chest CT ordered for other reasons. The cases were diagnosed in the emergency department (65.8%), during admission (22.6%) and in the clinic (11.7%). The clinical presentation was as follows: 67 high-risk (8%), 473 intermediate-risk (56.4%) and 398 low-risk (35.6%). Ten percent of total patients received advanced therapy: catheter directed therapy, systemic tissue plasminogen activator, extracorporeal membrane oxygenation and/or surgical embolectomy. In-hospital mortality for all patients was 9.7%, with 4.1% PE-related.

## Summary and Conclusions

The utilization of AI helps screen and identify patients with acute PE diagnosed on CT scan. The current study described the contemporary risk stratification and outcome in an AI-detected cohort of PE patients.