

Racial/ethnic Disparities in Arrhythmias in Pulmonary Embolism: Incidence and Clinical Outcomes

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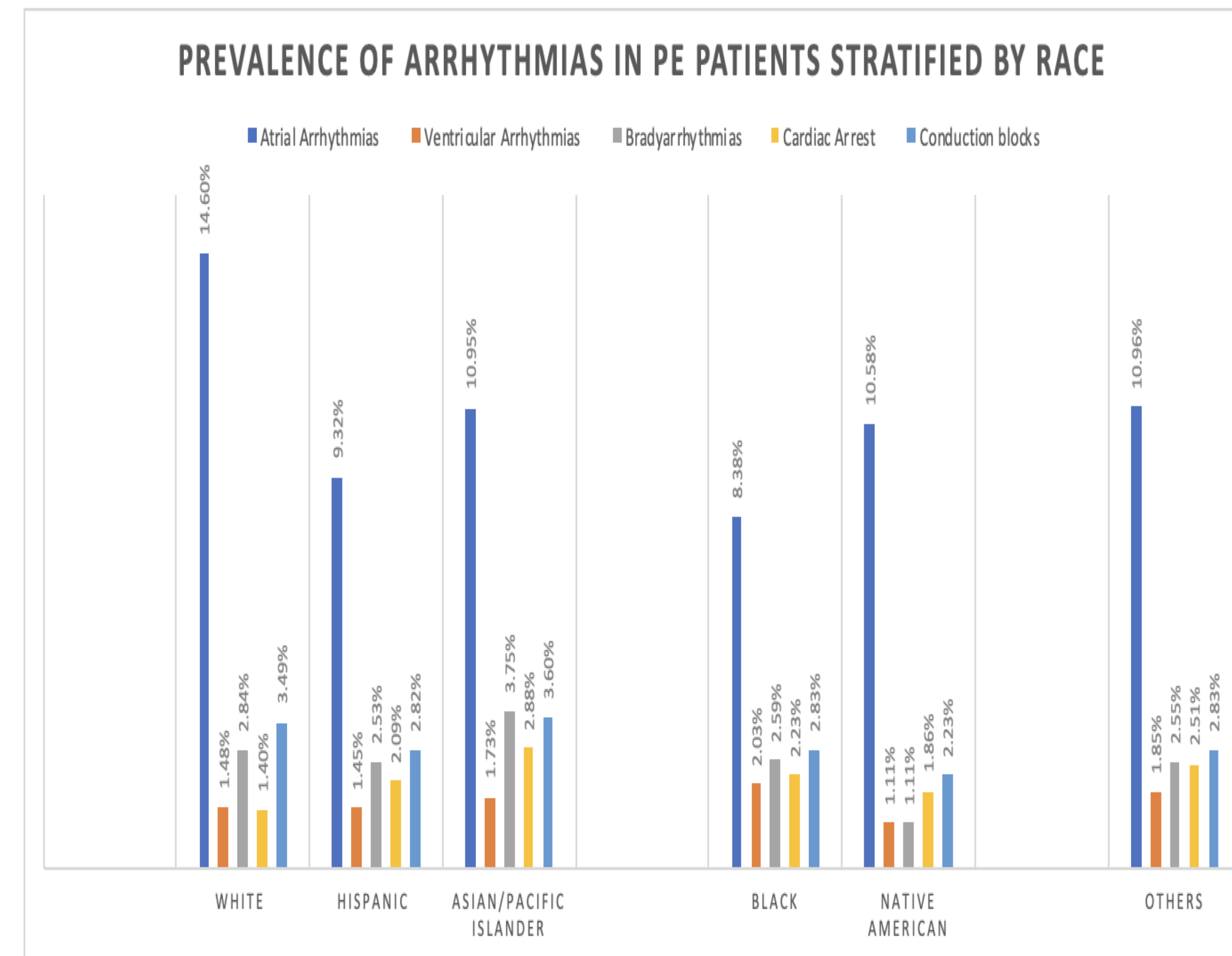
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Introduction:

Acute pulmonary embolism (PE) poses a significant risk of morbidity and mortality. While it's increasingly acknowledged that PE can induce arrhythmias, their prevalence and outcomes in relation to race and ethnicity are yet to be fully understood.

Methods:

We queried the National Inpatient Sample database (2017-2020) to identify adult patients hospitalised with acute PE. Patients were stratified, based on race into: White, Black, Hispanic, Asian/Pacific Islander, Native American, and Others. Racial disparities, with White as reference, as well as its impact on outcomes, were evaluated. The primary outcome was in-hospital mortality. Secondary outcome was development of arrhythmias. Further analysis was done to determine any racial disparities related to mortality from the arrhythmias. Multivariable regression analyses accounting for patient and hospital characteristics including comorbidities etc were performed.



Conclusion:

There is a statistically significant racial predilection to development of arrhythmias in patients with acute PE. Black and Hispanic patients are more likely to die from ventricular arrhythmias and cardiac arrest.

Results:

Out of 136,161 patients with PE, 70.85% were White, 19.58% Black, 5.95% Hispanic, 1.05% Asian/Pacific Islander, 0.41% Native American, with 2.16% identified as Others.

In our study cohort, ventricular tachyarrhythmias were seen in 2.03% Black patients, 1.48% White, 1.45% Hispanic, 1.73% Asian/Pacific Islander, 1.11% Native American, and 1.85% Others (P=0.00). 2.23% of Black patients developed cardiac arrest, 1.40% White patients, 2.09% Hispanic, 2.88% Asian/Pacific Islander, 1.86% Native American, and 2.51% Others (P=0.00). Black patients had increased odds of developing ventricular tachyarrhythmias (aOR 1.31, 95% CI 1.17-1.47, P=0.00) compared to Whites. Asian/Pacific Islanders had increased odds of developing bradyarrhythmias (aOR 1.34, 95% CI 1.01-1.79; P<0.05). Black patients had increased odds of developing cardiac arrest (aOR 1.31, [95% CI 1.14-1.51] P=0.00). Black and Hispanic patients had increased odds of dying from cardiac arrest (respectively [aOR 1.26, 95% CI 1.08-1.48, (P=0.00)]; [aOR 1.30, 95% CI 1.03-1.64, (P<0.03)]).