



Outcomes Following Carotid Artery Surgery: Does Race Make A Difference?

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■ Objectives

Carotid occlusive disease is a major cause of stroke, accounting for 20-25% of cases in USA. The purpose of this study was to identify ethnic disparity in terms of risk profile, clinical presentation and outcome in patients undergoing carotid endarterectomy using national database.

■ Methods

- Using National Surgical Quality Improvement Program (NSQIP) data file from year 2017-2019, we identified patient undergoing carotid endarterectomy, CPT code (35301).
- Patients were divided into two groups based on ethnicity into white and non-white.
- Patients' demographic, comorbidities, clinical presentation, post-operative morbidity, and mortality were compared between groups using chi-square and t-test as appropriate.

■ Results

Among 21,993 patients included in the study, 19,202 (87.3%) were white and 2,791 (12.7%) were non-white. Minority non-white group were more likely to present with symptomatic carotid occlusive disease (7.5% vs. 4.8%, $p < 0.001$), procedure was done emergently in 2.3%, were younger (median age of 69.8 vs 71.1; $p < 0.001$) and higher proportion of female gender (43% vs 87%; $p = 0.01$).

The non-white group also had significantly higher cardiovascular risk factors including smoking, diabetes, coronary artery disease, history of coronary revascularization, COPD, and end-stage renal disease. Although there was no difference in postoperative MI, stroke, patient with non-white ethnicity had higher overall postoperative morbidity, mortality, and total hospital duration.

■ Conclusions

Review of the NSQIP database reveals ethnic minority groups of patients presented with advance carotid occlusive disease at time of carotid surgery

compared to the white population. This group also had higher postoperative morbidity and mortality and presented with higher number cardiovascular risk factors. The findings may be due to delay in seeking treatment, limited access to care, and less rigorous screening. Further studies are required to identify

factors delaying care for carotid occlusive disease in the non-white population.