In Hospital Outcomes Among Diabetics Undergoing Transcarotid Artery Revascularization for Carotid Artery Stenosis

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Background

- Transcarotid artery revascularization (TCAR) is a novel procedure to intervene on clinically significant carotid artery stenosis, which involves a reversal of flow from the carotid artery to the femoral vein.
- In clinical trials the periprocedural rate of stroke has proved exceedingly low (<1.5%).
- Diabetic patients are known to have elevated risk of periprocedural adverse events with traditional carotid endarterectomy and stenting.
- Outcomes among diabetics undergoing TCAR remain unclear.
- Our aim was to determine the periprocedural cardiovascular and cerebrovascular events (MACCE) among patients undergoing TCAR in a large national database.

Methods

- The Vascular Quality Initiative database was queried for all Transcarotid Artery Revascularization procedures from January 2012 to March 2021.
- TCAR was defined by procedures involving reversal of flow.
- Baseline demographic information and periprocedural outcomes were obtained.
- In cases in which multiple procedures were performed, only the most recent was included in the final analysis.
- Outcomes examined included stroke, TIA, MI, death, and various composite outcomes.

Results

- A total of 19,341 patients underwent TCAR, of these 7427 (38.4%) were diabetics.
- The risk of periprocedural stroke (OR 1.32, p = .020), TIA (OR 1.55, p = .027), TIA/Stroke (OR 1.40, p < .01) all suggested diabetics remain at higher risk compared to non-diabetics.
- The risk of myocardial infarction was not significant (0.7% vs 0.5%, p = .064).
- Death remained a rare outcome (0.5% vs 0.4%, p = .096) and was not statistically significant between the two groups.
- The combined composite outcome of stroke/death/MI noted a higher adverse event rate (2.5% vs 1.9%, OR 1.38, p = .001) for diabetics as well.

Conclusion

- TCAR is a safe revascularization for significant carotid artery stenosis with an elevated risk of periprocedural MACCE in diabetics compared to non-diabetic patients.
- Further studies are needed to define optimal patient selection for this novel and less-invasive strategy for carotid artery disease.
- Of particular interest will be if other revascularization strategies (TFCAS & CEA) offer a lower risk among diabetics compared to TCAR.

References & Disclosures


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