

PERIOPERATIVE HYPOTENSION DURING CAROTID STENTING: RELATION WITH AGE

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BACKGROUND:

Carotid artery stenosis is a geriatric age problem and elder age is a predictor for perioperative morbidity and mortality during carotid stenting. Reports concerning hypotension after CAS pointed to an incidence ranging between 7 to 80%. Persistent hypotension following CAS was reported to be caused by mechanical effects of balloon angioplasty and stenting at the level of the carotid bulb which promoted hypotension due to local baroreceptor reflex. Particularly in patients without ACoM or similar anastomotic flow, balloon angioplasty might end up with temporary reduction in cerebral perfusion.

OBJECTIVE:

We reviewed our data for perioperative hypotension during carotid artery stenting. We studied the association of age with perioperative hypotension.

METHODS:

The study population includes 124 patients who were treated with carotid stenting at Ankara Numune Education and Research Hospital between September 2016 and January 2019. The aim of the study is to find the correlation between age and perioperative hypotension. Distal protection device (Spider FX, Medtronic, USA) was used in all cases.

RESULTS:

The group of patients below 55 years of age didn't develop any morbidity except marked hypotension in 3 patients. Patients aged over 75 developed only a single episode of hypotension and morbidity (other than hypotension) in this group is relatively high compared to patients below 55 years of age. Age group between 55 and 65 developed 1 aphasia, 1 homonymous hemianopia and 1 mortality. There were 1 dyspasia, 2 hemiparesis and 1 mortality in patients between 65 and 75 years of age. Morbidity over 75 years of age included 2 hemiparesis, 1 cranial nerve paresis and 1 mortality. No correlation was found between age groups except patients below 55 years of age.

Severe hypotension below 80 mm Hg was noted to develop in 14 cases (11.3%). All these cases were subjected to volume replacement and IV Dopamine infusion except patients with contraindication. Hypotension was noted in 3 cases below 55 years of age, 7 cases between 55 and 65 years of age, 3 cases between 65 and 75 years of age and only 1 case over 75 years of age. Incidence of hypotension was noted to decrease with advanced age.

CONCLUSION:

Hypotension is usually designated as a minor morbidity in CAS patients however it might be associated with a significant neurological deficits. The risk of carotid stenting below 55 years of age is minimal except hypotension risk however perioperative morbidity and mortality is more pronounced with advanced age without any hypotension.