INTRODUCTION

A common practice during the cross-clamp period of carotid endarterectomy (CEA) is to maintain mean arterial pressure (MAP) above baseline in order to optimize collateral cerebral blood flow and reduce the incidence of ischemic stroke. A rule of thumb is to maintain MAP ≥20% above baseline during cross-clamp.

OBJECTIVE

The aim of this study is to determine whether MAP management ≥20% above baseline during cross-clamp is associated with a lower incidence of a subtler form of neurologic injury than stroke observed within 24hr, early cognitive dysfunction (eCD).

METHODS

- **N=188 CEA patients were neuropsychometrically evaluated with an automated battery test battery.**
- **60% of patients did not differ from the rest of the cohort (Figure 1).**
- **Sixty-nine (37.7%) had a MAP managed ≥20% above baseline while 114 (62.3%) were managed <20% (Table 1).**
- **In the final multivariate regression model, MAP ≥20% above baseline during the cross-clamp period was associated with significantly lower risk of eCD (OR: 0.18 [0.07-0.40], P=0.001) while diabetes mellitus (OR: 2.73 [1.14-6.61], P=0.03) and increasing years of education (OR: 1.19 [1.06-1.34], P=0.003) were associated with significantly higher risk (Table 2).**

RESULTS

- **Overall, 28.4% of CEA patients exhibited eCD.**
- **The incidence of eCD was significantly lower in patients whose MAP was managed ≥20% above baseline compared to those managed <20% above baseline (11.6% vs. 38.6%, P<0.001).**
- **With each 10% increase above baseline, the incidence of eCD consistently decreased ≥30% above baseline. Six patients (a MAP ≥30% above baseline and exhibited a slightly higher incidence of eCD (16.7%); these 6 patients did not differ from the rest of the cohort (Figure 1).**

Figure 1. MAP Management at Cross-Clamp & eCD.

**CONCLUSIONS**

- **MAP maintenance ≥20% above baseline during cross-clamp of the carotid artery is associated with a significantly lower incidence of eCD after CEA.**
- **This management of MAP during the cross-clamp period may significantly improve the safety of CEA.**