

Treatment of internal carotid artery NEar occlusiON (NEON study): An individual patient data meta-analysis

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ABSTRACT

*** Introduction:** The European Society for Vascular Surgery guideline recommends treating patients with an internal carotid artery near occlusion (ICA NO) with best medical therapy (BMT), based on 2003 level III class C evidence. Consequently, ICA NO patients were excluded from randomized trials. The aim of this individual patient data (IPD) meta-analysis was to determine the optimal treatment approach.

*** Methods:** A systematic search was performed in MEDLINE, EMBASE and Cochrane databases in January 2018. The primary outcome was the occurrence of any stroke or death within the first 30 days of treatment, analyzed by multivariate mixed effect logistic regression. The secondary outcome was the occurrence of any stroke or death beyond 30 days up till one year of treatment, analyzed by Kaplan-Meier survival curve.

*** Results:** We pooled IPD from 11 studies, 703 patients. Within 30 days, any stroke/death was reported in 8 patients (2.4%) in the CEA group, in 5 patients (2.2%) in the CAS group, and in 7 patients (4.9%) in the BMT group. This resulted in a higher 30-day stroke/death rate after BMT than after CEA (OR 5.63, 95% CI 1.3-24.45, p=0.021). No differences were found between CEA and CAS. The 1-year any stroke/death free survival rate was 96.1% for CEA, 94.4% for CAS and 81.2% for BMT.

*** Conclusions:** BMT is not superior to CEA or CAS with respect to 30-day or 1-year stroke/death prevention in ICA NO patients. In addition, these patients do not constitute a high-risk subgroup for surgery and should not be excluded from future RCTs.

INTRODUCTION

- ESVS guideline recommendation: Best Medical Therapy (BMT)
- Based on Level III, class C (2003)
- ICA NO deemed high risk subgroup for surgery
- Excluded for randomized controlled trials (RCT)
- Now only observational studies available

AIM

To determine the optimal treatment approach in patients with an internal carotid artery near occlusion (ICA NO)

METHODS

- Systematic search MEDLINE, EMBASE and Cochrane databases (01/2018)
- Primary outcome: any stroke or death <30 days (multivariate mixed effect logistic regression with correction for confounders: age, gender, symptom status and center)
- Secondary outcome: any stroke or death >30 days up till one year (Kaplan-Meier survival curve)

RESULTS

Baseline characteristics:

	CEA n=334, 48%	CAS n=227, 32%	BMT n=142, 20%
Age, years (IQR)	66 (59-71)	71 (64-76)	69 (61-75)
Male, %	72	88	81
Asx	5	18	1
TIA	57	29	45
Stroke	38	54	56
Antiplatelet, %	NA	NA	99
Statin, %	NA	NA	85

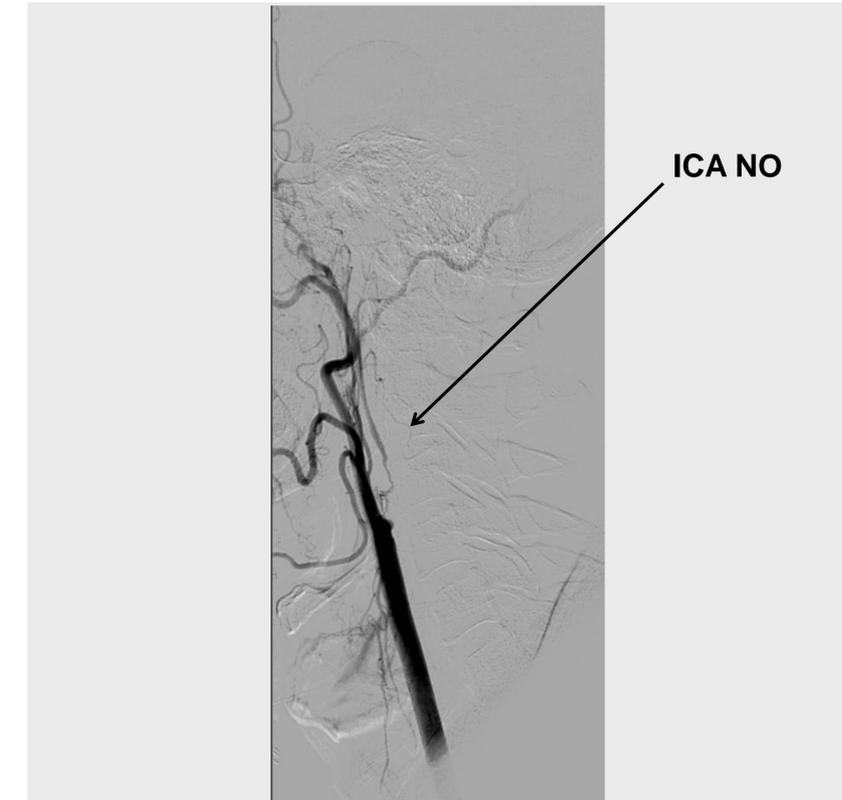
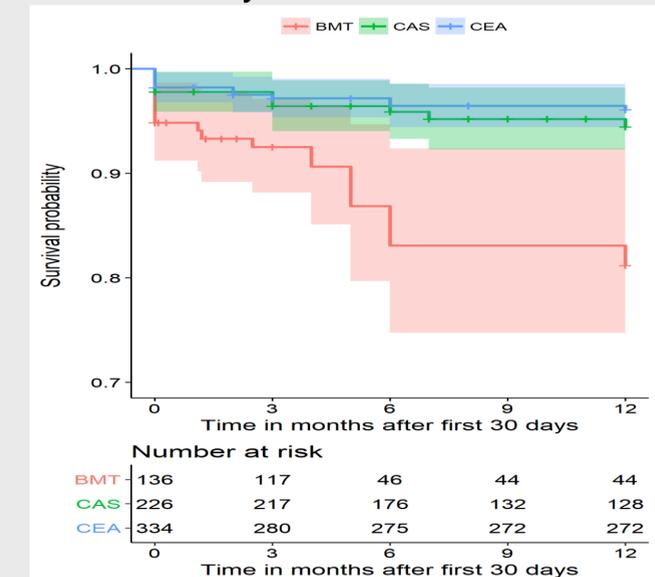
Stroke/Death <30 days:

CEA: 2,4% (n=8)
CAS: 2,2% (n=5)
BMT: 4,9% (n=7)

BMT vs CEA OR 5.63 (95% CI 1.3-24.45, p=0.021)

CEA vs CAS OR 0.62 (95% CI 0.06-6.11, p=0.682)

Stroke/Death >30 days:



CONCLUSION

BMT is not superior to CEA or CAS with respect to 30-day or 1-year stroke/death prevention in patients with internal carotid artery near occlusion.

These patients do not constitute a high risk subgroup for surgery and should not be excluded from future RCTs.

DISCLOSURES

None