**EVALUATING THE ROLE OF STA-MCA BYPASS IN CAROTID OCCLUSION: A SYSTEMATIC REVIEW AND INDIVIDUAL PATIENT DATA META-ANALYSIS.**

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**Introduction:**

Internal carotid artery occlusion (CAO) is a severe condition that can lead to stroke or neurological complications due to reduced blood flow to the brain. In this context, STA-MCA (superficial temporal artery - middle cerebral artery) bypass surgery may be a possible therapy. The high-flow bypass offers a significant amount of blood flow, although it may lead to complications. On the other hand, the low-flow bypass involves fewer complications, but it may not generate sufficient blood flow for severe occlusions.

**Purpose:**

Our goal is to determine whether the low-flow bypass can be used at CAO scenarios.

**Methods:**

A systematic review was conducted on the STA-MCA low-flow bypass procedure in the internal carotid artery (ICA) to evaluate its appropriateness for carotid occlusion situations. The preliminary review excluded studies that reported on carotid stenosis or occlusive scenarios.

**Results**:

STA-MCA surgeries were performed in 58 eligible patients with ICA occlusion, based on 9 studies (2 case reports and 7 case series). 81.82% of cases (27 out of 33) had no complications, while the remaining complications were mostly transient (4 out of 6, or 66.67%). The procedure was successful in maintaining cerebral blood flow and preventing ischemia, with 70.70% (41 out of 58 cases) showing clinical improvement. Follow-up duration ranged from 2 to 271 weeks.

**Conclusion:**

Our analysis suggests that the STA-MCA bypass technique, which can be precisely controlled and adjusted, can function as both a low-flow and high-flow bypass, making it a flexible and versatile option for managing complex vascular conditions. Further studies are needed to fully explore the potential of the STA-MCA bypass technique.