

Recurrent Large-vessel Occlusion and Flow Disturbance in Carotid Web

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Abstract:

Carotid web (CaW) is increasingly recognized as a potential embolic source of ischemic stroke, yet optimal management strategies remain uncertain. We report a case of symptomatic CaW causing recurrent large-vessel occlusion (LVO) despite stepwise escalation of antithrombotic therapy, ultimately requiring carotid artery stenting (CAS). A 67-year-old woman experienced repeated left middle cerebral artery occlusions treated with mechanical thrombectomy. Comprehensive etiologic evaluation failed to identify an alternative embolic source other than CaW. Time-resolved digital subtraction angiography and carotid duplex ultrasonography demonstrated pronounced flow disturbance within the web pouch, including recirculation and delayed washout. The web exhibited a relatively acute configuration (approximately 45°) with moderate luminal narrowing (~50% by the European Carotid Surgery Trial criteria). Given the recurrent embolic events, lesion-directed revascularization with CAS was performed, resulting in exclusion of the web pouch from antegrade flow and absence of residual flow on follow-up ultrasonography. This case highlights that symptomatic CaW may serve as a persistent embolic substrate despite medical therapy and supports consideration of early lesion-directed intervention in selected high-risk patients.

Keywords:

Carotid web, large-vessel occlusion, mechanical thrombectomy, carotid artery stenting, flow disturbance.