

A Case of Carotid Web Presenting with Large Vessel Occlusion and Successfully Treated with Mechanical Thrombectomy

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INTRODUCTION:

- Carotid web is a rare, *non-atherosclerotic, fibroelastic intimal projection* into the carotid bulb, causing turbulent flow and thrombus formation.
- Recognized cause of recurrent ischemic stroke in young adults, especially women. It accounts for 1–2% of all ischemic strokes but up to 10–20% of cryptogenic strokes in the young.
- Often underdiagnosed on routine CT angiography.
- it represents an *intimal variant of fibromuscular dysplasia (FMD)* and is distinct from atherosclerotic plaque due to absence of lipid core or calcification

AIM:

- To highlight carotid web as a rare, potentially treatable etiology of large vessel occlusion (LVO) presenting with acute ischemic stroke.
- To emphasize the role of timely endovascular therapy in improving outcomes.

CASE PRESENTATION:

Patient Profile:

- 26-year-old female, no vascular risk factors.
- Acute onset right hemiparesis and dysarthria at 5:30 PM (10 Jan 2025).
- NIHSS 16, ASPECTS 10 on NCCT.

Investigations:

- CT Angiography: Left M1 occlusion with carotid web in left ICA.
- Echocardiogram: Normal LV function, EF 55%.
- Autoimmune and thrombophilia work-up: Negative.

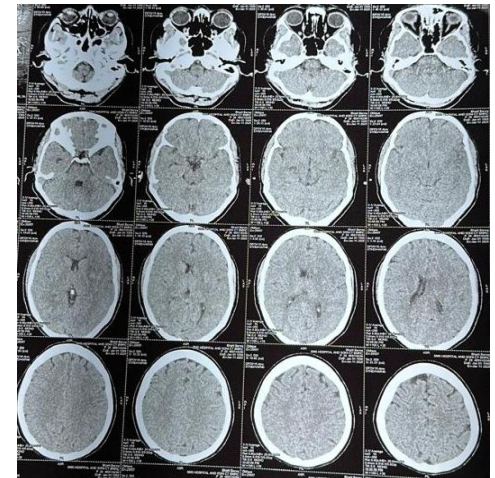


Fig 1. NCCT Head

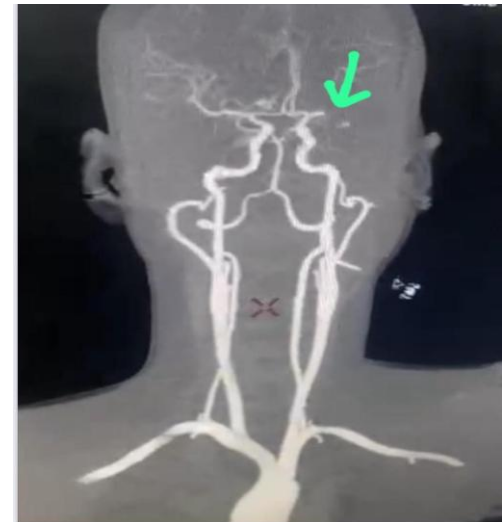


Fig 2: CT angiography –left M1 occlusion

Case presentation

Management:

- IV thrombolysis with *Tenecteplase* 10 mg IV bolus.
- Mechanical thrombectomy using stent retriever; *TICI* 3 reperfusion achieved.
- *Tirofiban* infusion administered intra-procedure.
- Histopathology of retrieved clot: *Thrombus*.

Clinical Outcome:

- Remarkable improvement post thrombectomy.
- NIHSS improved from 16 → 4 within 24 hours,
- at discharge; mRS 1.
- Mild dysarthria and right-sided weakness (4/5) persisted.
- Planned for carotid stenting to prevent recurrence

Follow-up:

- On dual antiplatelet therapy and statin.
- Ambulatory with minimal support



Fig 3. Carotid web in left carotid bulb lateral view



Fig 4: AP view

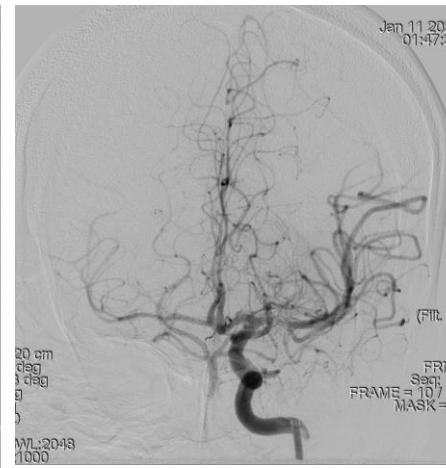


Fig 6: *TICI* 3 flow achieved post mechanical thrombectomy

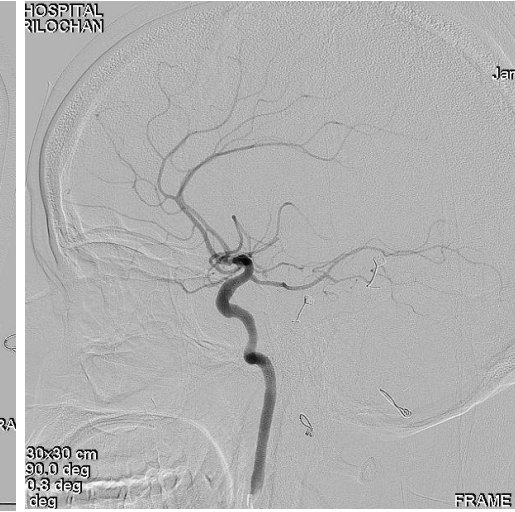
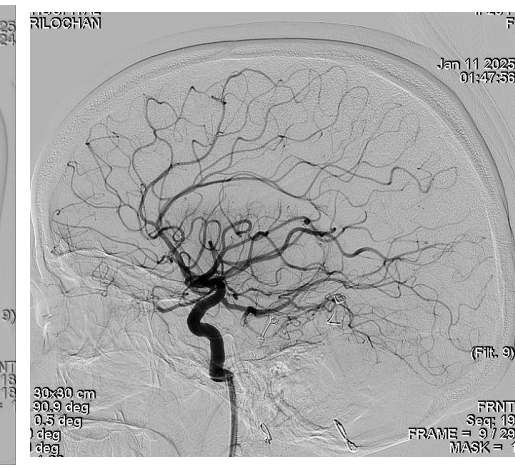


FIG 5: DSA images with left m1 segment occlusion



DISCUSSION :

- Carotid web is an intimal fibromuscular ridge projecting into the carotid lumen, usually located at the posterior wall of the carotid bulb—the site of low shear stress and flow stasis.
- This local hemodynamic alteration promotes platelet aggregation and thrombus formation, which can embolize to the intracranial circulation, leading to stroke.
- Imaging Diagnosis :
 - CT Angiography / DSA: Shelf-like, smooth, intraluminal filling defect in the carotid bulb, best seen on sagittal oblique reconstructions.
 - MRI: May show flow voids; plaque composition studies distinguish it from atherosclerosis.
 - DSA remains the gold standard.
- Treatment: There is no consensus on optimal therapy.
 - Medical management with antiplatelets may be insufficient, as recurrence rates are high (up to 30%).
- **In our case, combined IV thrombolysis and MT achieved excellent reperfusion and outcome, consistent with prior case series. Elective carotid stenting was planned for secondary prevention.**

CONCLUSION:

- **Carotid web should be actively considered in young patients with large vessel occlusion and no conventional vascular risk factors.**
- **Accurate diagnosis through high-resolution imaging and timely endovascular intervention can significantly improve outcomes and prevent recurrence.**
- **Our case underscores the importance of recognizing carotid web as a treatable cause of stroke in the young.**