Flow Diversion for a Cervical Internal Carotid Artery Aneurysm: A Case Report and Literature Review

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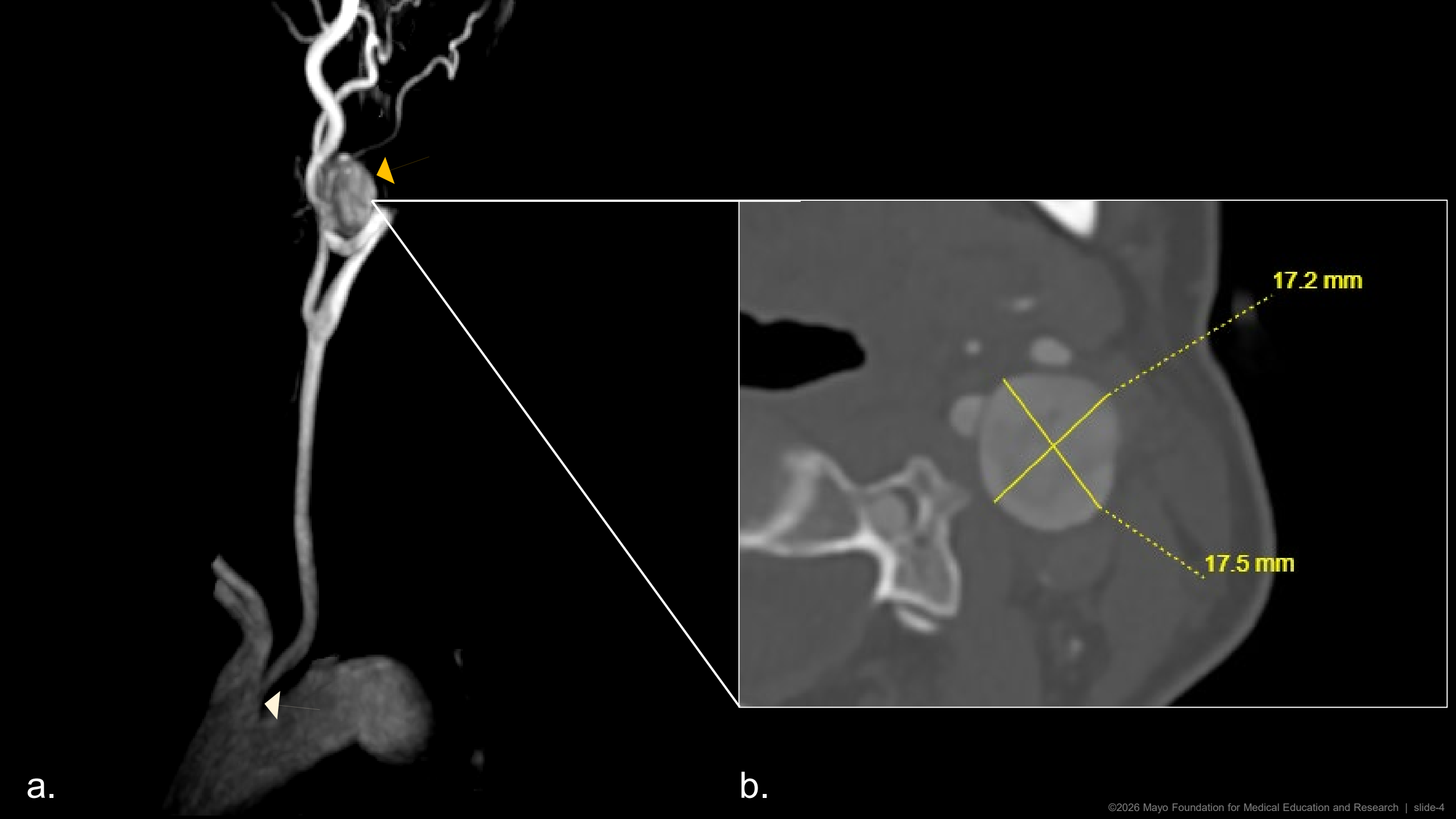
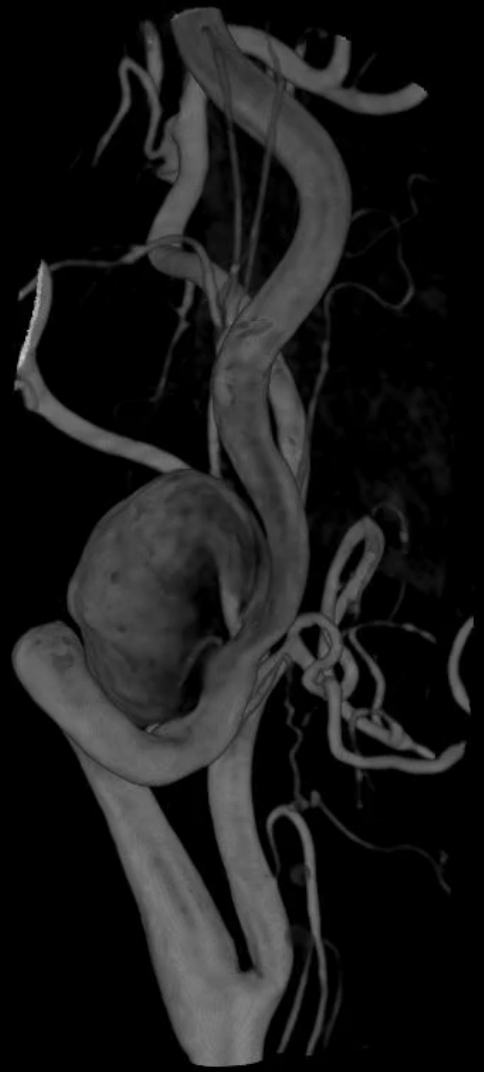
BACKGROUND

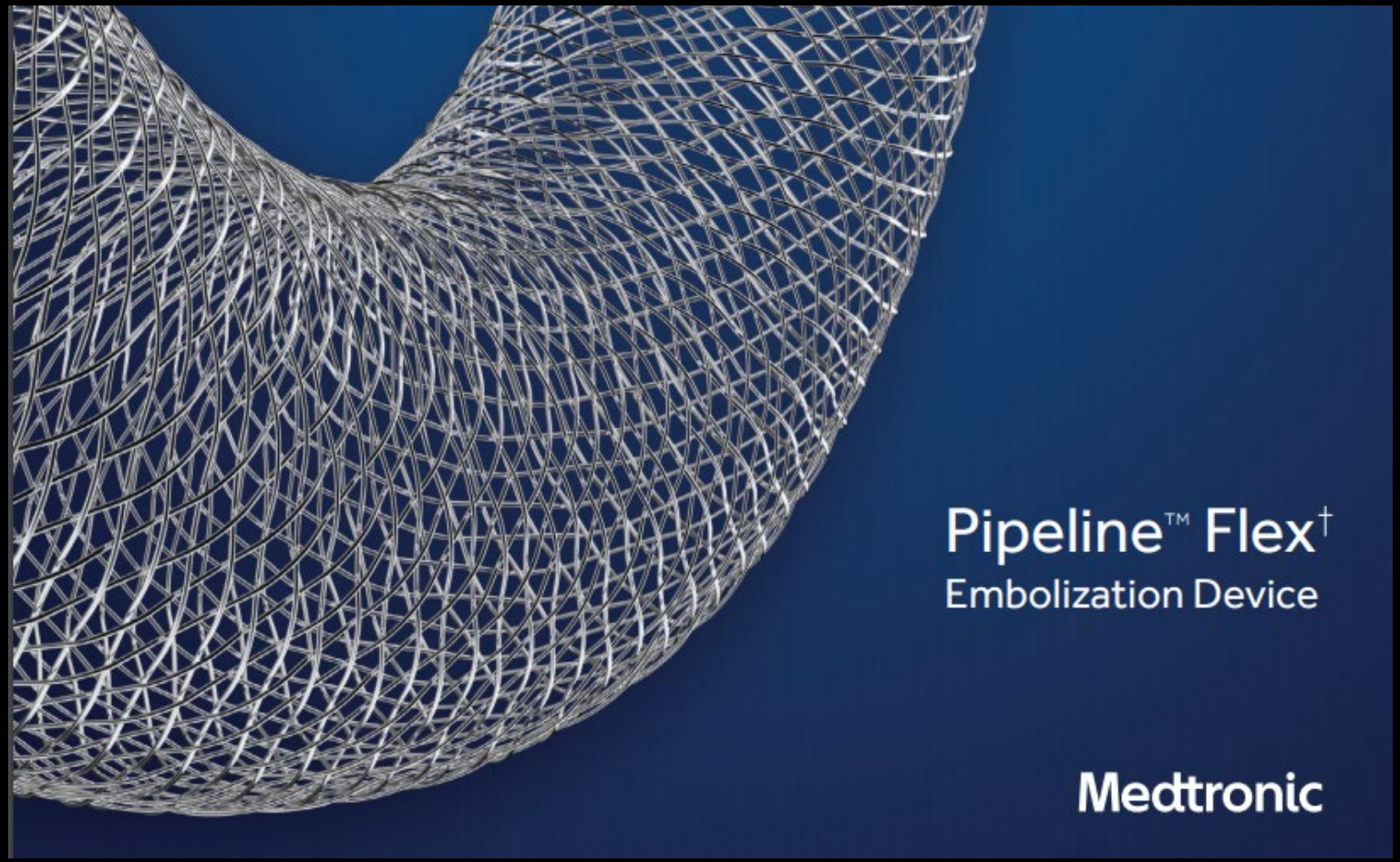
- Extracranial ICA aneurysms are rare vascular lesions, accounting for <1% of all arterial aneurysms.
- These aneurysms may enlarge over time and can lead to rupture, thromboembolism, stroke, or local mass effect.
- Due to their rarity, evidence is limited and no clear management guidelines exist.
- Treatment must be individualized based on anatomy, lesion location, and technical factors.

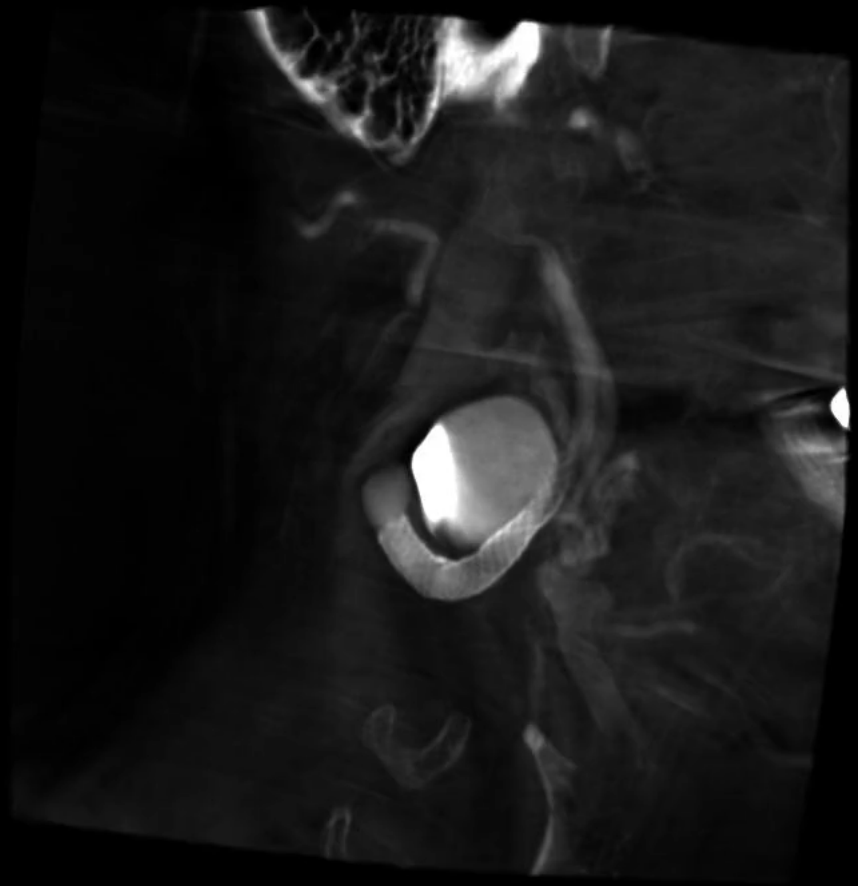
CASE

- 60-year-old woman with history of hypertension, hypothyroidism, and glossal hemangioma.
- Left ICA aneurysm was incidentally found on routine neck ultrasound during a simulation training session.
- She was asymptomatic, with no history of TIA, visual symptoms, or cranial nerve deficits.
- Exam showed a palpable pulsatile mass below the left mandibular angle.



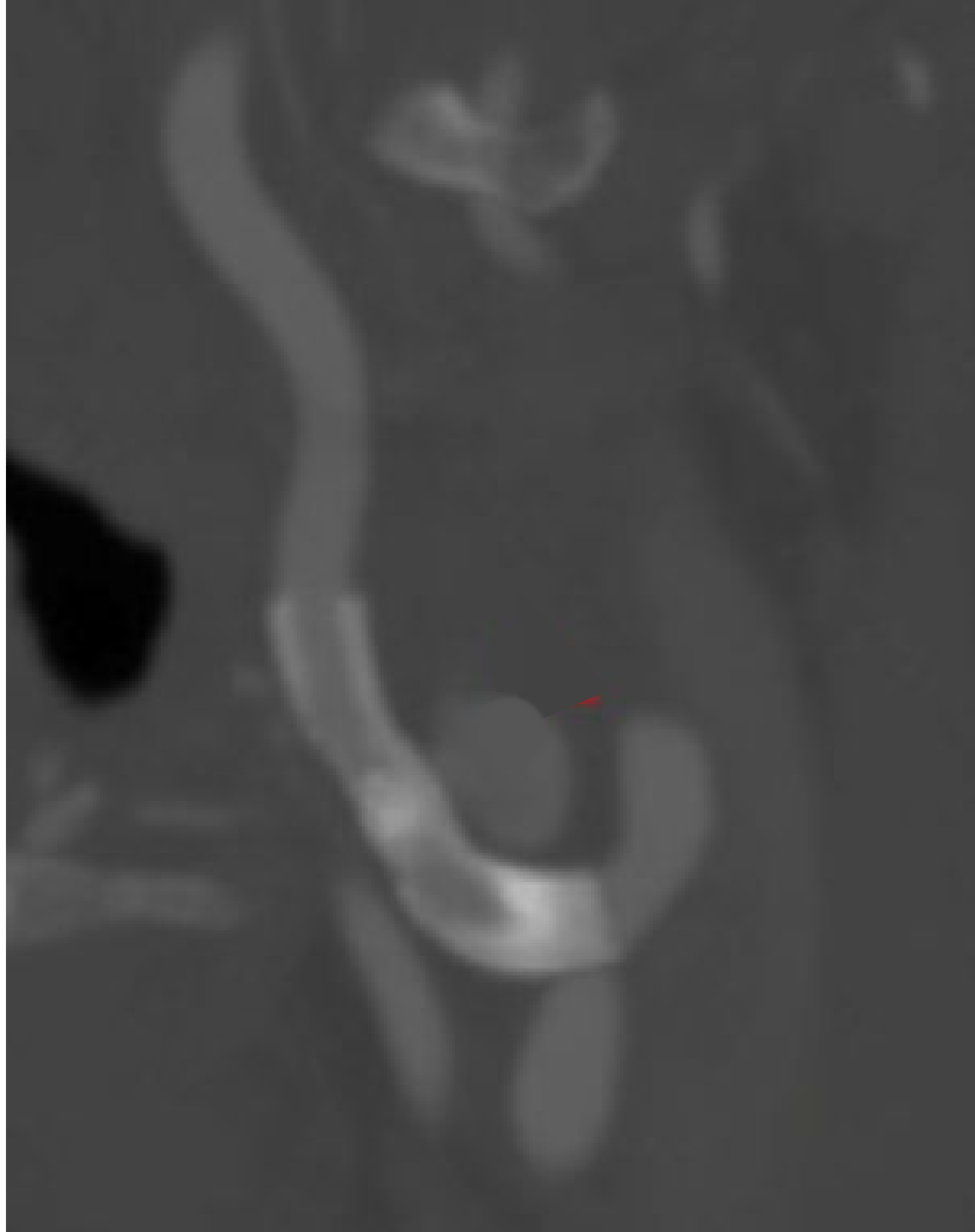



Pipeline™ Flex†
Embolization Device
Medtronic



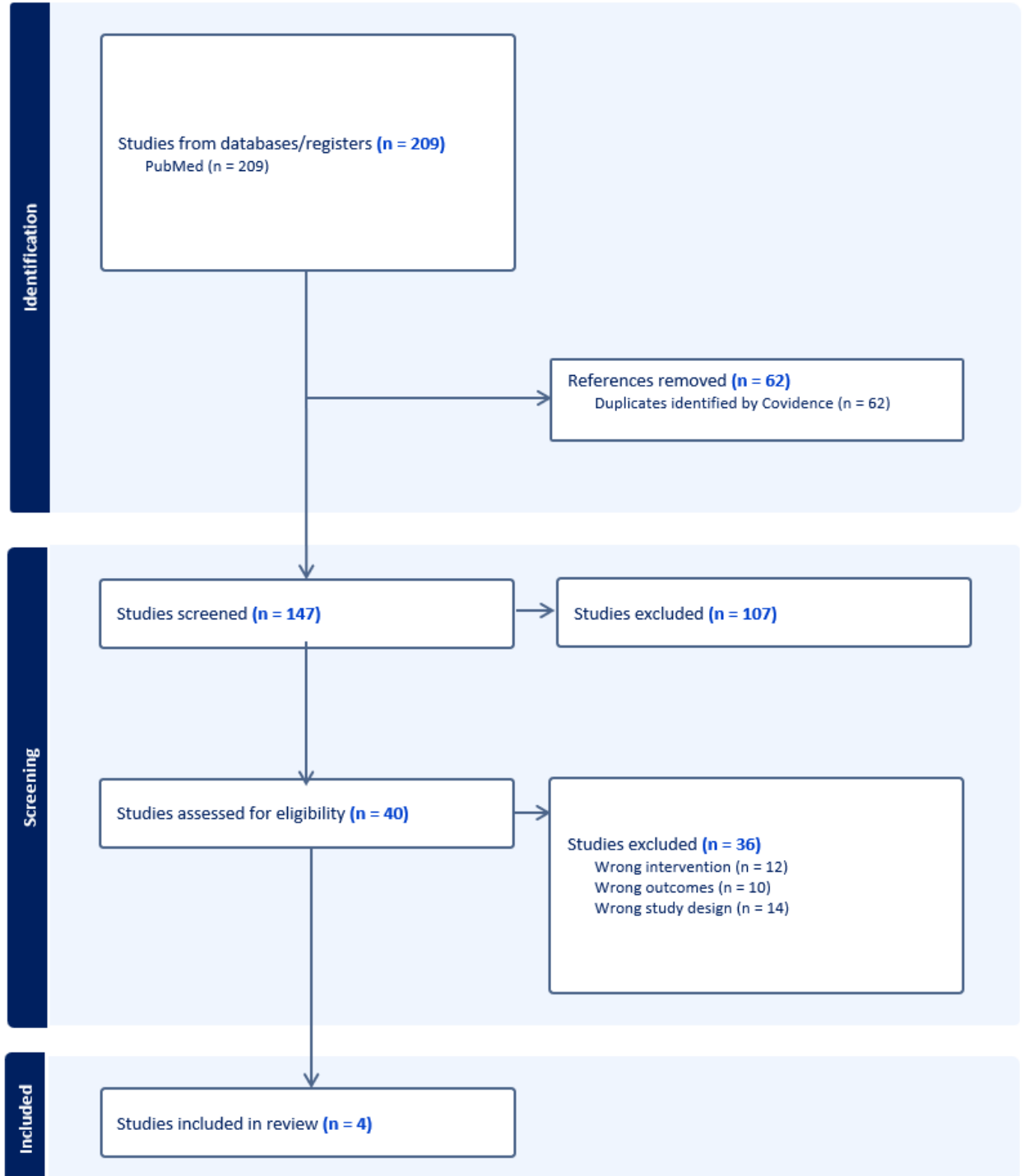
FOLLOW-UP

- The patient remained neurologically intact after the procedure.
- At 1-year follow-up, she remains asymptomatic, with decrease of the treated aneurysm to 7 mm.



LITERATURE REVIEW

- We screened 209 studies and end with 4 studies reporting use of PED for extracranial carotid aneurysms, including 22 patients in total.
- Most aneurysms were saccular, with etiologies including incidental, traumatic, fibromuscular dysplasia, connective tissue disorder, and unknown causes.
- Across all studies, no periprocedural strokes were reported, and follow-up showed aneurysm exclusion, sac shrinkage, or minimal residual filling.
- Stent patency was 100% in studies where it was reported.
- Follow-up showed favorable short-term results.



CONCLUSIONS

- Flow diversion with a PED provided an effective, artery-preserving solution for a mid-cervical ICA aneurysm in tortuous anatomy, achieving immediate flow stasis with parent-artery patency.
- This case supports using flow diversion for extracranial ICA aneurysms when anatomy is favorable, alongside careful antiplatelet therapy and planned imaging follow-up.

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Thank you

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