

71 year old woman with possible limb-shaking TIAs

Q&A

Q: How did quantitative vessel flow measurements contribute to the diagnosis and subsequent treatment plan?

A: Risk stratified her into a probable lower risk category for recurrence based on the unlikelihood that her symptoms were flow related and, therefore, no revascularization procedure was advised.

Q: Will the patient be followed from this point with NOVA? **A:** Yes.

Q: How often?

A: Annually, however, individual follow-up depends on the problem, severity, and whether the patient was symptomatic. We have generally requested follow-up at increasing intervals of 3 months, 6 months, and annually thereafter if flows are stable. Marginal flows, deteriorating flows and recurrent symptoms suggest a need for shorter intervals.

Patient History

- ❖ 71 year-old woman with a 2 episodes of right hand jerking thought to be possible limb-shaking transient ischemic attacks
- ❖ **Risk Factors:** dyslipidemia, hypertension, left carotid endarterectomy on asymptomatic basis 3 years prior to presentation

Diagnostic Workup

Carotid Ultrasound

60-69% RICA stenosis
Occluded LCCA

MRI/MRA

No acute infarction
Occluded LCCA
RICA Stenosis

nova

Showed 74 ml/min collateral flow to the LMCA supplied by the ACOM

Vascular Reserve Testing

fMRI and MR Perfusion with and without di-amox showed normal vascular reserve

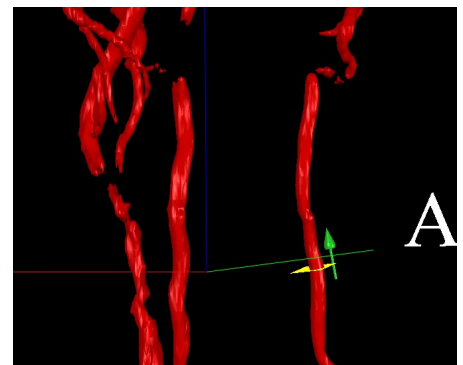


Figure 1 Slice plane through the left vertebral artery. The left common carotid is completely occluded

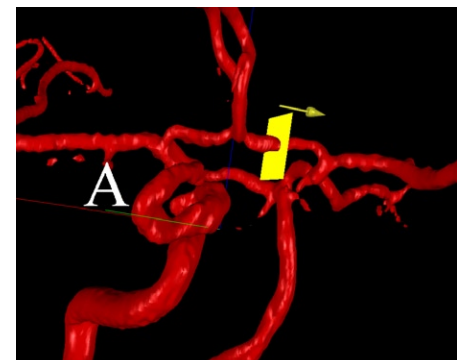


Figure 2 Slice plane through the left anterior cerebral artery. Note the direction of flow (yellow arrow), is toward the right middle cerebral artery

NOVA Report

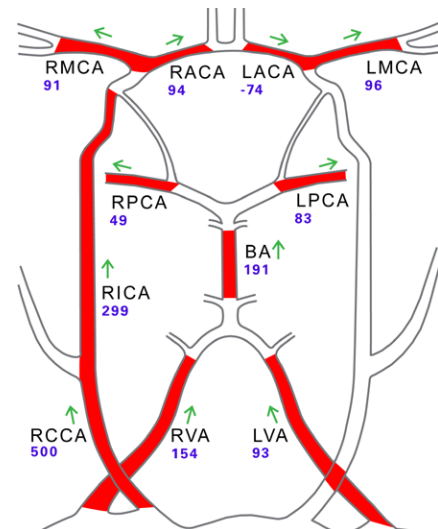
There is no detectable flow in the LCCA and cervical LICA. Bilateral MCA flow is slightly reduced. The LMCA flow is mostly supplied by the ACOM. LPCA flow is asymmetrically higher the RPCA flow suggesting pial collateralization.

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NOVA baseline table

vessel	flow mL/min	range* mL/min
Total Cranial Flow (TCF)	747	770-1460
RCCA	500	310-570
LVA	93	80-170
RVA	154	90-170
RICA	299	180-310
BA	191	160-260
LMCA	96	110-210
RMCA	91	100-200
LACA	-74	60-170
RACA	94	60-160
LPCA	83	50-100
RPCA	49	50-100

NOVA vessel map



Conclusion

Based on the NOVA result and vascular reserve testing, her perfusion was likely adequately compensated and no intervention was offered. She is medically treated with an antiplatelet agent, angiotensin receptor blocker, thiazide diuretic, and Simvastatin. She has not had any recurrent ischemic symptoms in nearly 2 years.

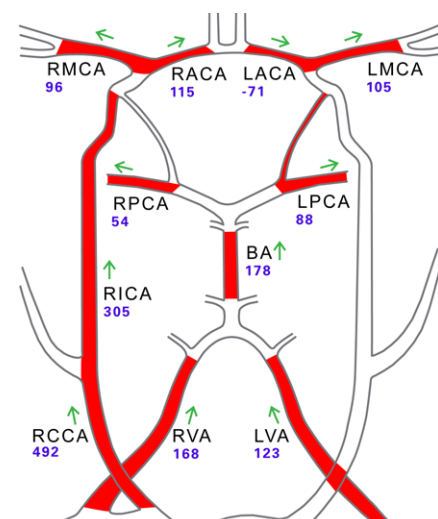
Follow up NOVA study 6 months later

Compared to the previous study, the flows are similar

NOVA baseline table

vessel	flow mL/min	range* mL/min
Total Cranial Flow (TCF)	783	770-1460
RCCA	492	310-570
LVA	123	80-170
RVA	168	90-170
RICA	305	180-310
BA	178	160-260
LMCA	105	110-210
RMCA	96	100-200
LACA	-71	60-170
RACA	115	60-160
LPCA	88	50-100
RPCA	54	50-100

NOVA vessel map



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