



RADIAL ACCESS FOR ACUTE STROKE THROMBECTOMY

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Disclosure Statement of Financial Interest

I, **Scott Geraghty** DO NOT have a financial interest/arrangement or affiliation with one or more organizations that could be perceived as a real or apparent conflict of interest in the context of the subject of this presentation.

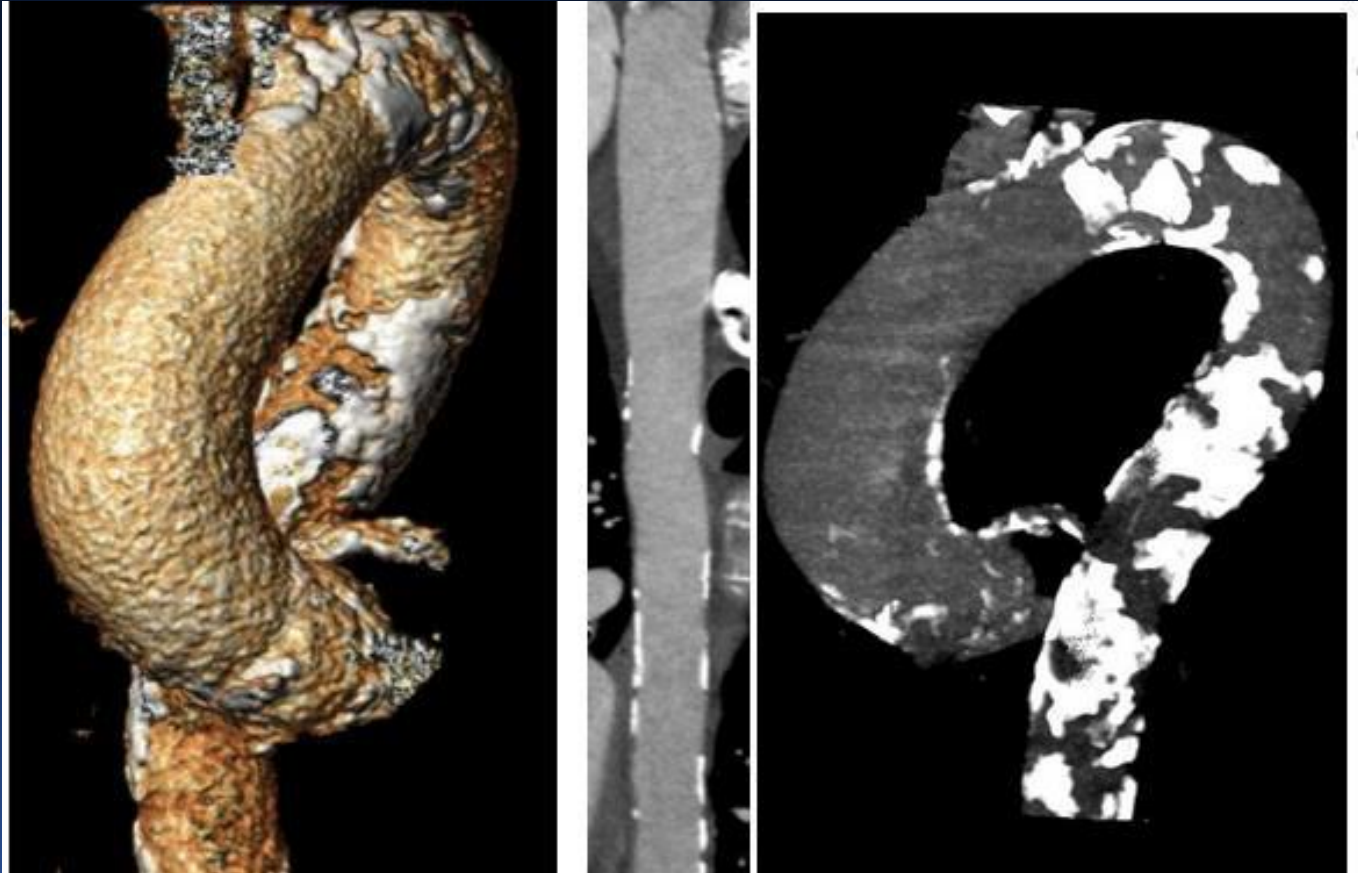
Why Radial Artery Access for Stroke??



- Access site complications are the most common adverse events from TFA
- Femoral approach fails in up to 5% of cases
 - Most technical failures are related to a complex arch

Ribo M, Flores A, Rubiera M, Pagola J, Mendonca N, Rodriguez-Luna D, et al: Difficult catheter access to the occluded vessel during endovascular treatment of acute ischemic stroke is associated with worse clinical outcome. J Neurointerv Surg 5 (Suppl 1):i70–i73, 2013

Delay trying to get access: TIME is Brain!!!



BACKGROUND

Samir Sur et al. Transradial approach for mechanical thrombectomy in anterior circulation large-vessel occlusion. Journal of Neurosurgery, Neurosurgical Focus 42 (4):E13, 2017

- 11 patients (8 primary radial access, 3 failed femoral access)
- TICI 3/2b in 10/11
- Average time to first pass was 64 minutes
- No complications

BACKGROUND

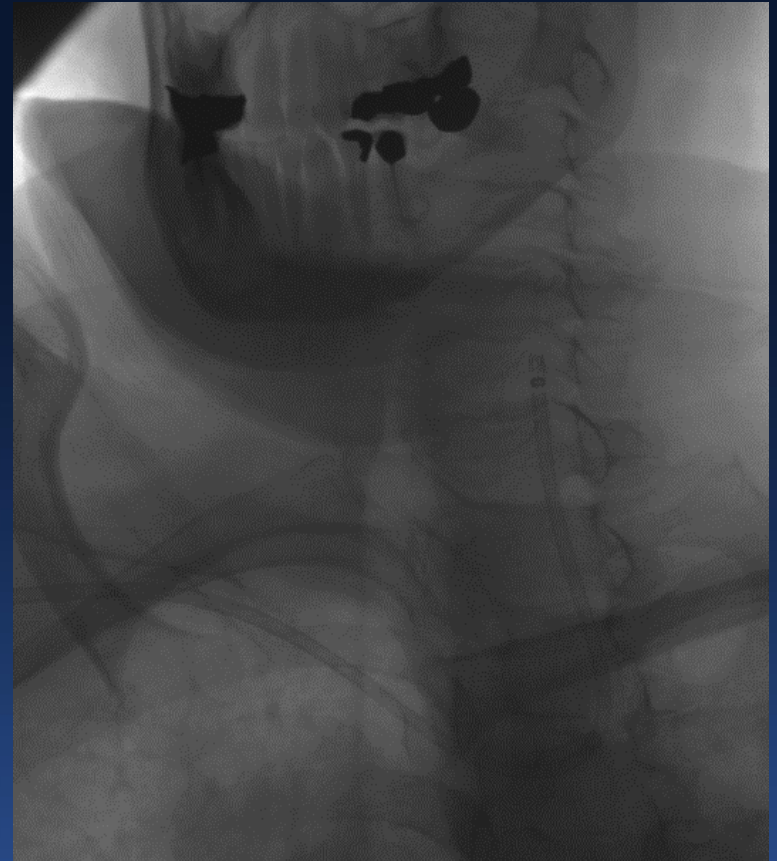
Haussen DC, Nogueira RG, DeSousa KG, et al. Transradial access in acute ischemic stroke intervention. Journal of NeuroInterventional Surgery 2016;8:247-250.

- TRA in 15/1001 patients
- 5 Anterior Circulation and 10 Posterior
- Time to switch from TFA to TRA was 1.9 ± 1.3 h.
- Mean time to radial perfusion 2.2 ± 1 h.
- Tici 2b/3 in 9/15
- No complications

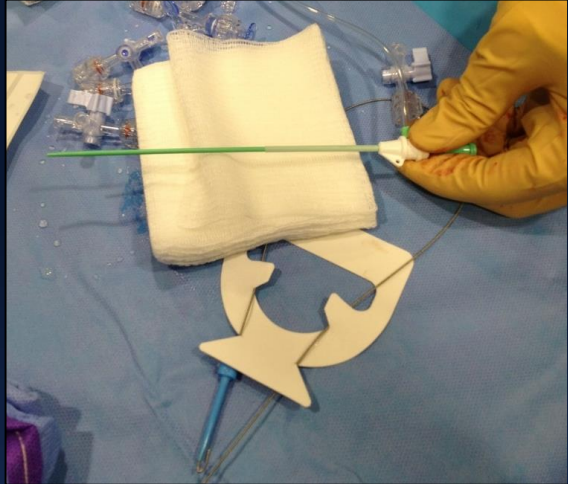
PATIENT SELECTION

- **Complex (Type 3) arch and anticipated poor femoral success**
- **Iliac or aortic occlusion**
- **Posterior circulation stroke (easy access to vertebrals)**
- **Right sided stroke**
- **Left stroke with Bovine arch**

BOVINE ARCH



SET UP AND EQUIPMENT



MODIFIED ALLEN/ BARBEAU MICROPUNCTURE

1st pass

- *Ultrasound if needed*
- ### IA SHEATH COCKTAIL
- *10 mg Verapamil*
 - *200 mcg nitroglycerin*

SHEATH

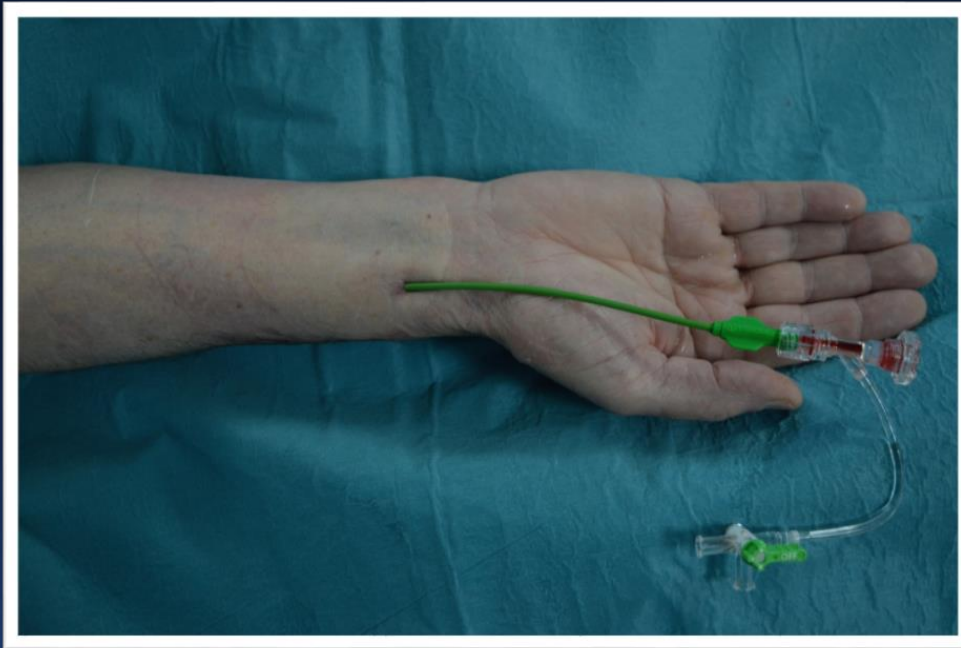
- *6F short sheath*

HEPARINIZED SALINE DRIPS

- *Typically 3*

After access hand is moved to the side making it similar distance and approach as femoral access

SET UP AND EQUIPMENT



GUIDE CATHETER

- **6F Benchmark** (Penumbra Inc, Alameda, Ca)
- *Sim2 or Ber Select inner catheter*

MICROCATHETER

- **.027 marksman** (160cm)
length (Medtronic, Minneapolis, MN)

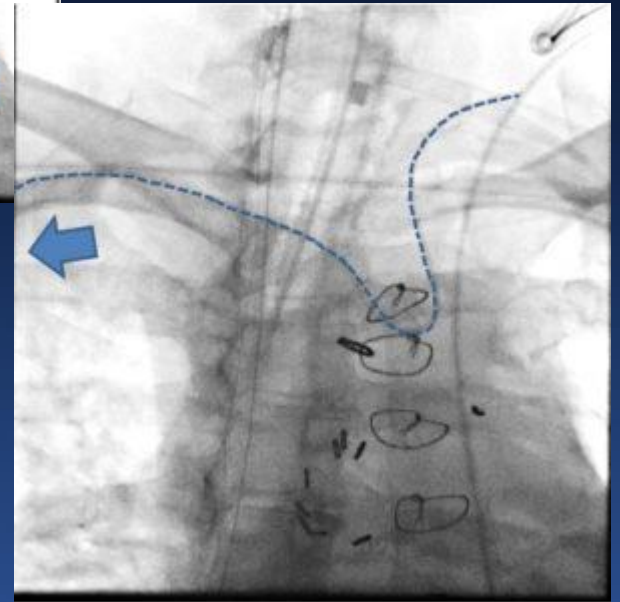
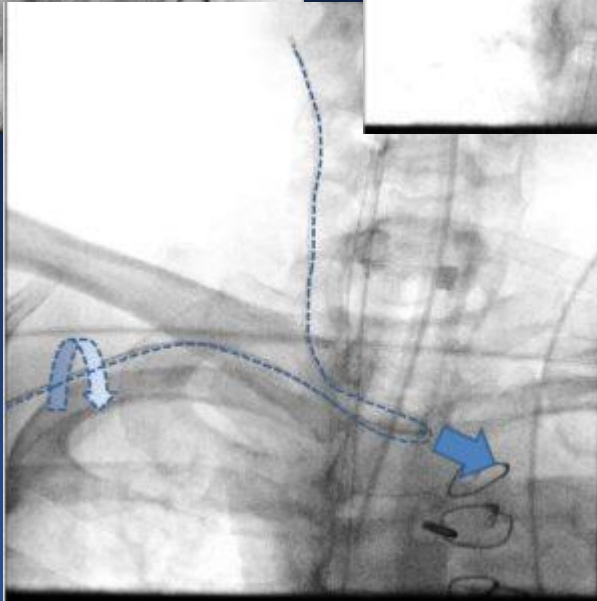
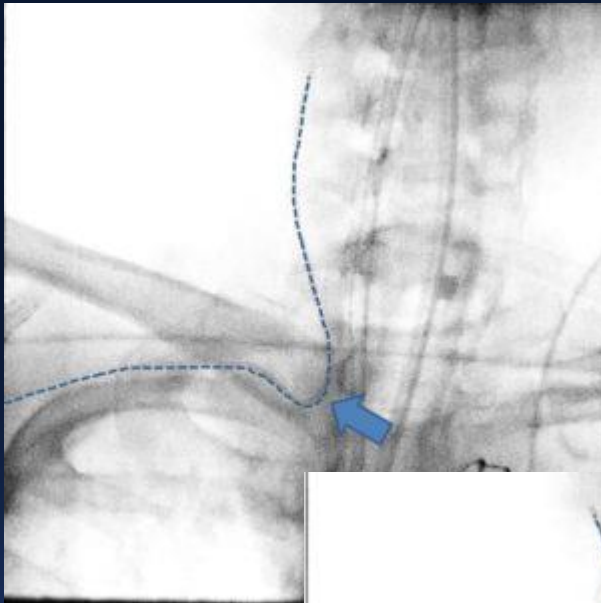
MICROWIRE

- **Syncro Standard (.014)** (Stryker Neurovascular, Fremont CA)

THROMBECTOMY DEVICE

- *Stentriever or 5F aspiration catheter can be used*

TECHNIQUE



<http://neuroradialaccess.com/forming-simmons-2-catheter-right-radial-approach/>

LIMITATIONS

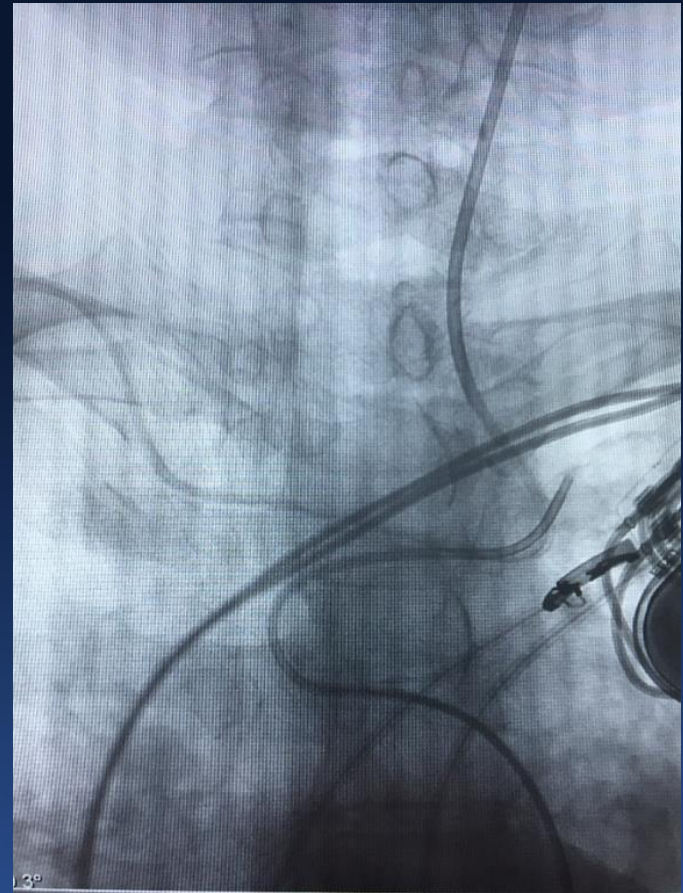
- **Significant learning curve for new TRA operators**
- **Access can be difficult for non-bovine left ICA**
- **Larger devices such as balloon guides are not ideal for radial cases**
- **Radial artery occlusion**

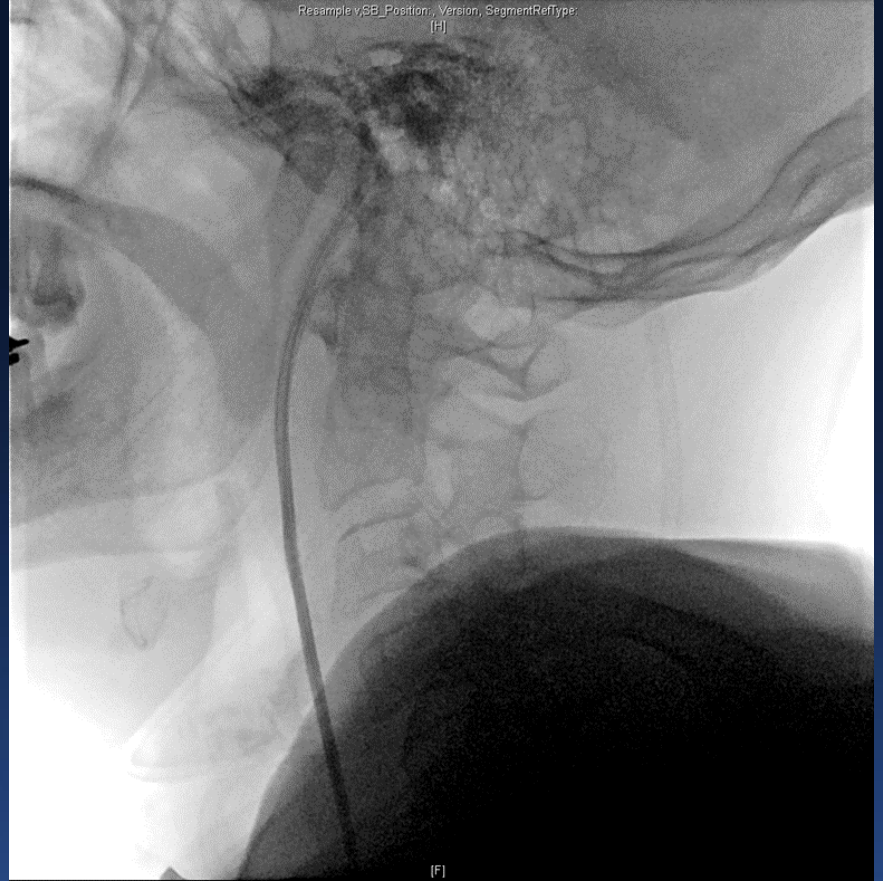
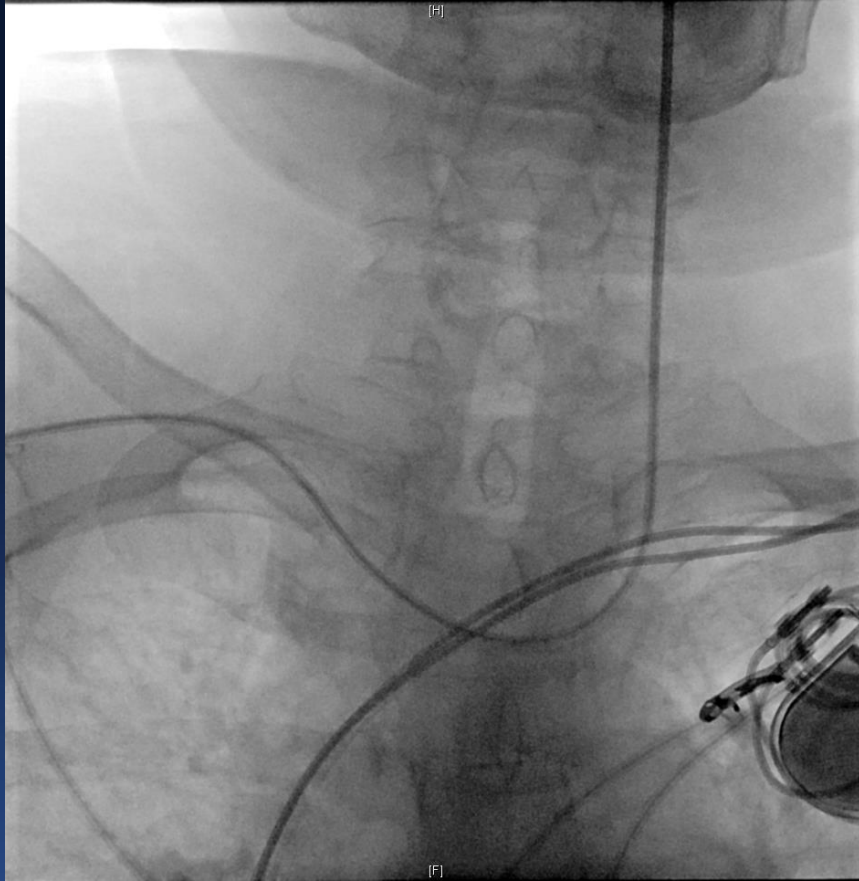
CASE PRESENTATION

- 76 yo female with history of MI, DM and HTN with sudden onset of complete aphasia and right hemiparesis after sneezing.
- Brought to OSH with initial NIH 21.
- She was given tPA, CTA head and neck was obtained and she was transferred to CSC for further care.
- Upon arrival at CSC NIH remained 21.
- Taken to Angiography for possible intervention















CONCLUSIONS

- **TRA for acute stroke intervention is feasible and safe when performed by experienced TRA operator**
- **Easy access for difficult anatomies (bovine arch LCCA and most of the innominate artery takeoffs)**
- **Allows early patient mobilization**
- **Eliminates bleeding complications**
- **Further studies are needed before recommending wrist access for endovascular procedures as primary approach over femoral access**