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**Sidney Kimmel  
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# Transradial approach for diagnostic cerebral angiograms in the elderly: a comparative observational study

Cannon Greco Hiranaka, \* Ahmad Sweid



- The rapidly growing elderly population poses a unique challenge for the management of cerebrovascular disease.
- In this high-risk cohort, it has been demonstrated that the transradial approach (TRA) reduces risk of stroke, vascular complications, and death among patients undergoing coronary angiography.
- This project aimed to assess the technical success and safety of TRA for elderly patients (aged  $\geq 75$  years) undergoing diagnostic cerebral angiograms.

# Objectives & Hypothesis

- Research Question
  - What is the technical success and safety of TRA for elderly patients (aged  $\geq 75$  years) undergoing diagnostic cerebral angiograms?
- Hypothesis
  - TRA is technical successful and safe for elderly patients (aged  $\geq 75$  years) undergoing diagnostic cerebral angiograms

# Approach & Results

- Study design
  - Retrospective medical chart review and comparative analysis
- Population / study sample
  - Patients aged 75 years or older who underwent TRA cerebral angiograms
  - Patients aged 75 years and older who underwent TFA cerebral angiograms
  - Patients aged less than 75 years who underwent TRA cerebral angiograms
- Data source and collection
  - Thomas Jefferson Medical Charts

# Approach & Results

- Rationale for Approach
  - Compare differences between TRA and TFA approach in the elderly group.
  - Compare differences between TRA approach between the elderly and their younger counterparts.

# Approach & Results

- Analysis
  - Analysis was performed using unpaired t-test,  $\chi^2$ , Fisher's exact tests, and ANOVA



# Approach & Results

- Findings

- Comparative analysis in the elderly (**TRA vs TFA**) showed

- No significant differences for contrast dose per vessel, fluoroscopy time per vessel, procedure duration, conversion rate, and access site complications.
    - Radiation exposure per vessel was **significantly lower** in the elderly TRA group.

# Approach & Results

- Findings

- The second comparison (TRA in **elderly** vs TRA in the **young**) showed

- No significant differences for contrast dose per vessel, radiation exposure per vessel, procedure duration, access site complication, and conversation rate.
    - A trend for **prolonged** fluoroscopy time per vessel was observed in the elderly TRA group.

- **Summary**
  - TRA is a technically feasible and safe option for diagnostic neurointerventional procedures in the elderly.
  - Our small elderly cohort was not powered enough to show a significant difference in terms of access site complications between TRA and TFA.

- Next Steps
  - A multicenter study may confirm our outcomes.
    - This study was conducted at a single institution by operators with extensive experience in TRA, and thus our analysis would not reflect the profile of less experienced interventionalists in the elderly.

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