

# Aggressive Percutaneous Access for EVAR and TEVAR is Safe

GT Endler DO, Komal Parikh DO, M Shukla MD, JR Dinning MD, ME Mitchell MD

University of Mississippi Medical Center, Department of Surgery, Division of Vascular and Endovascular Surgery

## BACKGROUND

- Surgical cutdown to access the common femoral artery (CFA) has historically been the standard of care for patients undergoing endovascular thoracic and abdominal aortic repair
- Technological advancements (vascular access methods, device sheaths, arteriotomy closure devices, etc.) result in percutaneous access becoming increasingly frequent and safe

## OBJECTIVES

- This study aims to review our experience with percutaneous CFA access requiring sheaths 12 Fr or larger and identify variables leading to successful arterial closure without conversion to open CFA access

## METHODS

- Retrospective study at a single tertiary care academic medical center from July 2022- August 2024
- Categories of CFA access: total percutaneous, planned open, conversion to open following attempted percutaneous access
- Patient factors analyzed:
  - BMI
  - Depth of artery below skin
  - Calcification
  - Degree of stenosis classification
    - <50%, 50-79%, critical-occluded
  - Plaque location
    - none, anterior, posterior, circumferential
- Exclusion criteria: access requiring sheath <12 French

## IMAGES

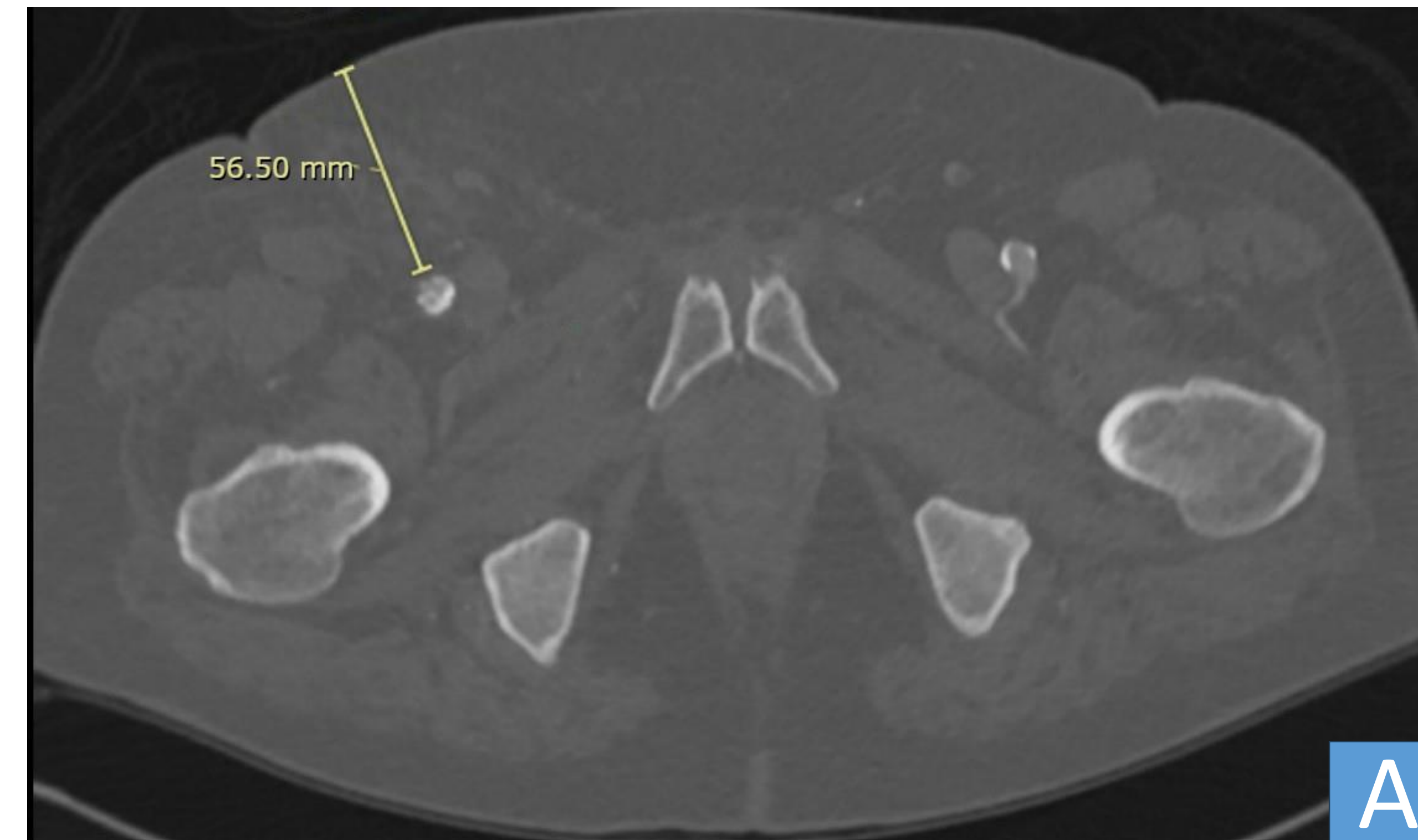


Figure A. Pre-operative CTA demonstrating a deep, calcified, stenotic Right common femoral artery (R CFA)

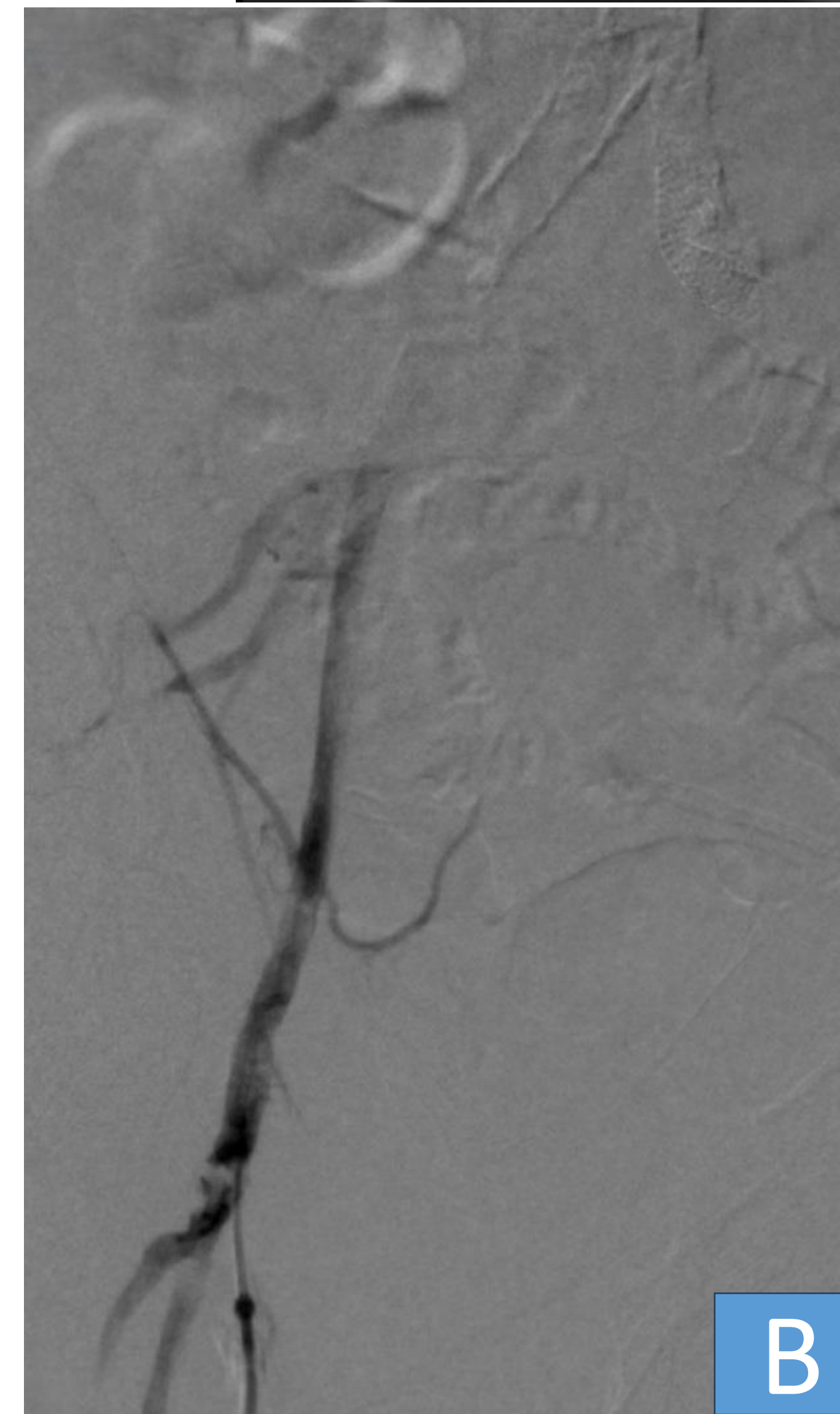


Figure B. Intraoperative angiogram demonstrating micro-puncture access of R CFA with tandem stenoses and lumen size suitable for 12-26F sheath.

## RESULTS

- N=133 patients with sheath sizes from 12-26 Fr
  - CFA was accessed 204 times (planned open access = 14)
- Percutaneous closure was performed using ProGlide™/ProStyle™ devices and done successfully:
  - 179/190 times (94%)
- 11 accesses required conversion to open CFA repair (5.4%)
  - 10 required CFA endarterectomy and patch angioplasty
- Sheath sizes requiring conversion to open:
  - 20 Fr- 36%,
  - 12 Fr sheath- 27%
  - 18Fr sheath- 18%
  - 22 Fr & 26 Fr- 9%

## CONCLUSION

- When percutaneous access is attempted but unsuccessful, conversion to open CFA access and repair can be done at the index operation without short- or long-term complications
- The use of percutaneous access in elective and traumatic TEVAR and EVAR is safe and justified

## AUTHOR CONTACT INFORMATION

- Komal Parikh, DO; kparikh@umc.edu
- Mrinal Shukla, MD; mshukla@umc.edu