D20. Percutaneous Radial Access Is Safe And Effective For Subclavian Branch Treatment During Zone 2 Endovascular Aortic Repair With Thoracic Branched Endoprosthesis

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Objective

- Evaluate safety and efficacy of percutaneous left radial access for subclavian branch treatment during TBE.

Methods

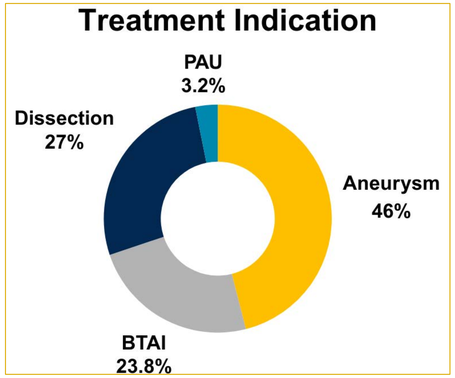
- Single institution retrospective review from 2022-2024
- 63 Consecutive patients who underwent on-label zone 2 aortic repair with TBE
- Treatment Indications:
  - Aortic dissection
  - Penetrating aortic ulcer (PAU)
  - Blunt thoracic aortic injury (BTAI)
  - Aneurysmal disease
- Outcomes:
  - Technical success of percutaneous radial access
  - Radial access complication rate
  - Subclavian side branch patency
  - Major complication rate

Table 1: Demographics and Medical History

Variables (N, % or mean ± SD)	Total cohort (56 patients)
Age (years)	61 ± 16.5
Males	42 (66.7)
BMI	28.7 ± 6.3
Tobacco Use	37 (58.7)
Hypertension	46 (73.0)
Diabetes	6 (9.5)
COPD	13 (20.6)
Coronary Artery Disease	13 (20.6)
Hyperlipidemia	17 (27.0)
Prior Stroke	9 (14.3)

Results

- 63 consecutive patients underwent zone 2 repair with TBE
  - 66.7% male, mean age 61 years ± 16.5
  - 21 Cases (33.3%) were performed within 24 hours of presentation.
- Side branch treatment was performed through percutaneous left radial access in 60 patients (95.2%).
  - 3 primary brachial accesses due to trauma or absence of radial artery
- Technical success of radial access was 100%
- One (1.6%) asymptomatic radial artery occlusion was detected that did not require intervention



- Post-operative imaging was obtained prior to discharge in 58 (92.1%) patients demonstrating 100% subclavian side branch patency.
  - Late term follow-up imaging (>30 days) was obtained in 33 patients (52.4%) also demonstrating 100% side branch patency.
- Notable Major Complications:
  - One stroke (1.6%) in a patient treated for aortic dissection with zone 2 proximal extent
  - One case with an EBL >1L in setting of iliac rupture.

Table 2: Percutaneous Radial Access Outcomes

Pathology	Percutaneous Radial Access Attempted	Technical Success of Radial Access	Radial Access Complications	Side Branch Patency of Radial Access
Aneurysm/Pseudoaneurysm (N=29)	28 (96.5%)	28 (100%)	1 - asymptomatic thrombosis	27 (100%)
Blunt thoracic aortic injury (N=15)	13 (86.7%)	13 (100%)	0	13 (100%)
Aortic Dissection (N=17)	17 (100%)	16 (100%)	0	16 (100%)
Penetrating Aortic Ulcer (N=2)	2 (100%)	2 (100%)	0	2 (100%)

Table 3: Major Complications

Death	0 (0%)
Myocardial Infarction	1 (1.6%), Type 2 NSTEMI
EBL > 1L	1 (1.6%), Iliac Rupture
Stroke / TIA	1 (1.6%)
Respiratory Failure / Prolonged Intubation	1 (1.6%)

Conclusions

- Left radial access is safe and effective for subclavian branch treatment with TBE
- Radial access is effective for subclavian branch treatment demonstrating 100% technical success and 100% side branch patency
- Radial access is safe with no major access site complications and 1.6% rate of stroke