Coronary Computed Tomography (cCTA) and Fractional Flow Reserve (FFR_{CT}) In Patients with Rutherford 3 Peripheral Arterial Disease

Conall Monahan BS | Halim Yammine MD | Fanny Alie-Cusson MD | Gregory Stanley MD | Charles S. Briggs MD | Hector Crespo Soto MD Tzvi Nussbaum MD | Kellie Safrit RN | Natalie Ray | Sarah Burnash MS | Camden West | William Saunders PhD | Frank R. Arko III MD

Atrium Health Sanger Heart & Vascular Institute

BACKGROUND

- We have previously shown significant incidence of severe CAD in patients with critical limb ischemia as well as patients with diabetic foot ulcers.
- We sought to study the incidence of CAD in patients with Rutherford 3 claudication and no known history or symptoms of CAD.

METHODS

- 37 patients with Rutherford 3 claudication and no known CAD were evaluated between August 2023 and August 2024.
- cCTA with FFR_{CT} was ordered on all of them.
- Severe CAD was defined as FFR_{CT} ≤0.75 and/or coronary stenosis ≥70% in at least one vessel.
- Primary outcome was the presence of severe CAD.

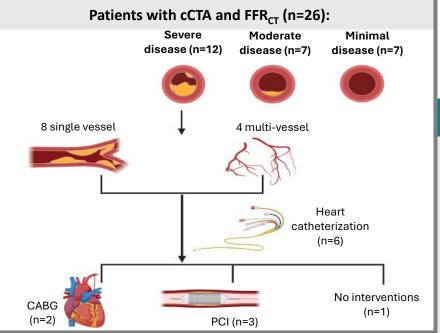
Demographics (n = 37)

Sex, n (%)	Male	19 (51.4%)
	Female	18 (48.6%)
Age, Mean ± SD		65.40 ± 8.90
Race, n (%)	White	26 (70.3%)
	Black	11 (29.7%)
BMI, Mean ± SD		28.74 ± 6.59
Comorbidities, n (%)	Hypertension	32 (86.5%)
	Hyperlipidemia	29 (78.4%)
	Current/Former Smoker	34 (91.9%)
	Diabetes Mellitus	12 (32.4%)

Patient Outcomes (n = 37) Coronary CTA and FFR done, n (%) Coronary CTA but no FFR, n (%) 12- severe disease 7- Moderate disease 7- Minimal disease 11 - minimal disease, no FFR obtained

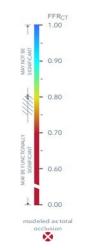
***One excluded patient had an MI before their cCTA was obtained ***

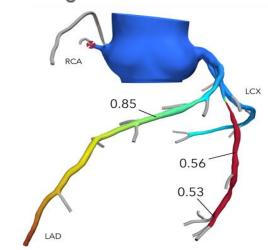
RESULTS



CLINICAL IMPLICATIONS

Standardizing CTA Coronary with FFR_{CT} for all patients with severe claudication could potentially **reduce the risk of major adverse** cardiovascular events (MACE) and potentially mortality.





FFR_{CT} scan derived from Heartflow

CONCLUSION

- 13.5% (5/37) of patients required a coronary intervention.
- Severe disease was observed in approximately a one- third (12/37) of the patients, with 8 having single-vessel disease and 4 having multi-vessel disease.
- Severe proximal disease was found in 8.1%
 (3/37) of patients. One patient with P LAD and P LCX disease underwent a CABG. The other two patients were found to have P RCA disease, and no coronary intervention was done.