

Introduction

•Both femoropopliteal and tibial angioplasty are utilized to revascularize limbs and have been shown to decrease the degree of stenosis¹.

•Our study aims to determine if adults undergoing lower extremity endovascular repair have a difference in 30-day post-procedural outcomes between femoral-popliteal angioplasty compared to tibial angioplasty.

Methods

A retrospective cohort study including 8319 patients was performed using the 2019-2021 National Surgical Quality Improvement Program (NSQIP) Participant Use Data file (PUD) and the 2019-2021 NSQIP procedure targeted PUDs. A linear regression analysis was performed, yielding odds ratios (OR) and 95% confidence intervals (CI) were obtained.

Inclusion Criteria: Adults who underwent either a Tibial or Femoropopliteal angioplasty.

Exclusion criteria: "missing" or "not documented" values in the exposure (procedure type) or outcome (MACE or MALE).

Outcomes: 30-day Post-procedural Major Adverse Coronary Events (MACE) and Major Adverse Limb Events (MALE).

Limitations

•This study utilized data from the National Surgical Quality Improvement Program (NSQIP) thus limiting the post-procedural outcomes to the 30-day period and long-term outcomes could not be assessed.

•Additionally, many of our variables were dichotomous making it difficult to elicit the true effect of these confounders.

Major Adverse Cardiovascular and Limb Events Post Tibial vs Femoropopliteal Angioplasty

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There was no significant difference in 30-day postprocedural outcome (MALE or MACE) between Tibial or Femoropopliteal angioplasty found.

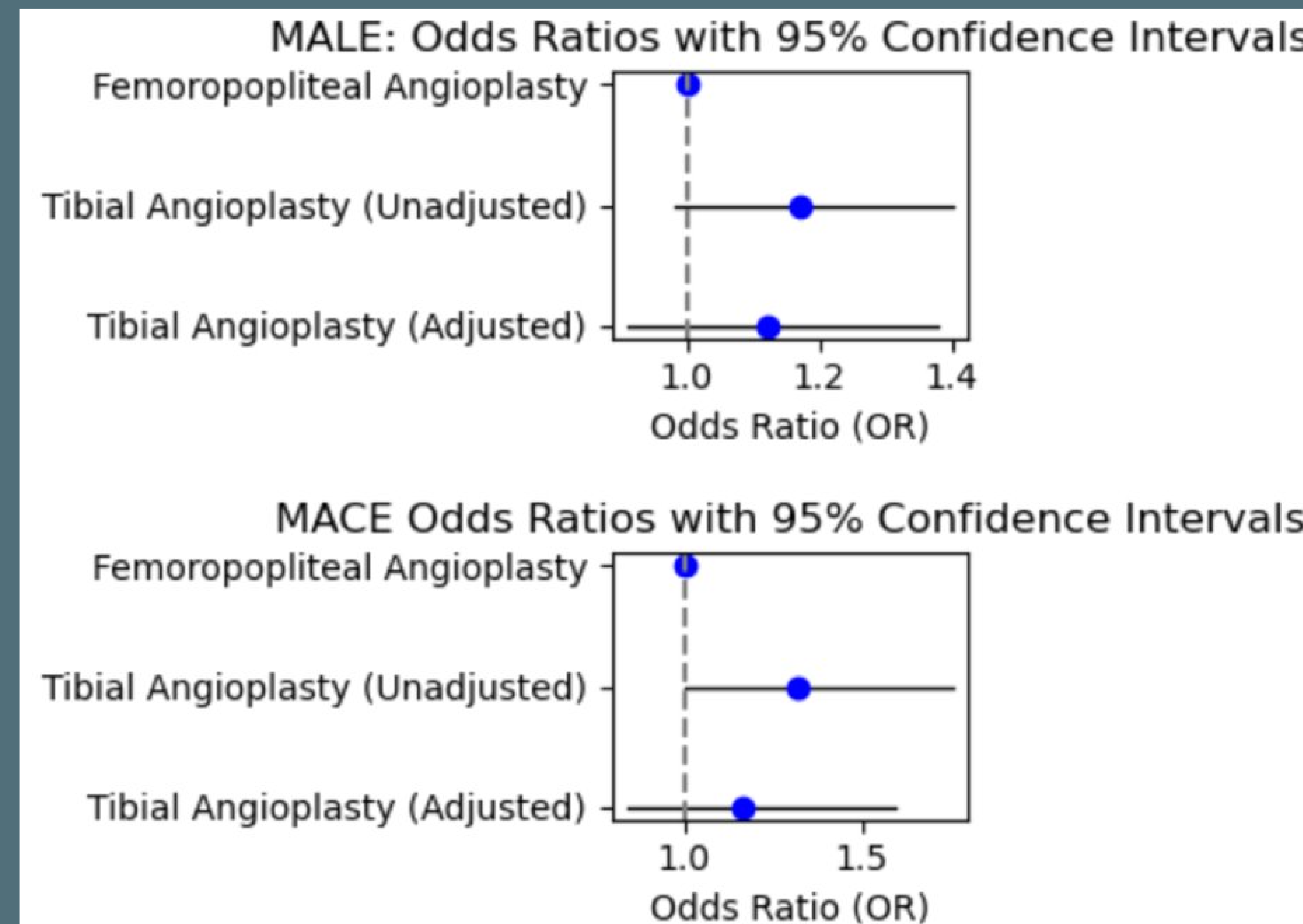


Figure 1: Crude and Adjusted analysis between procedure type and MACE and MALE
*Adjusted for age, ethnicity, ABI measurement, Smoking status, diabetes, and dialysis
**Adjusted for age, race, ABI measurement, diabetes, smoking status, and dialysis

30 Day Post-Procedural Outcomes Between Procedure Types

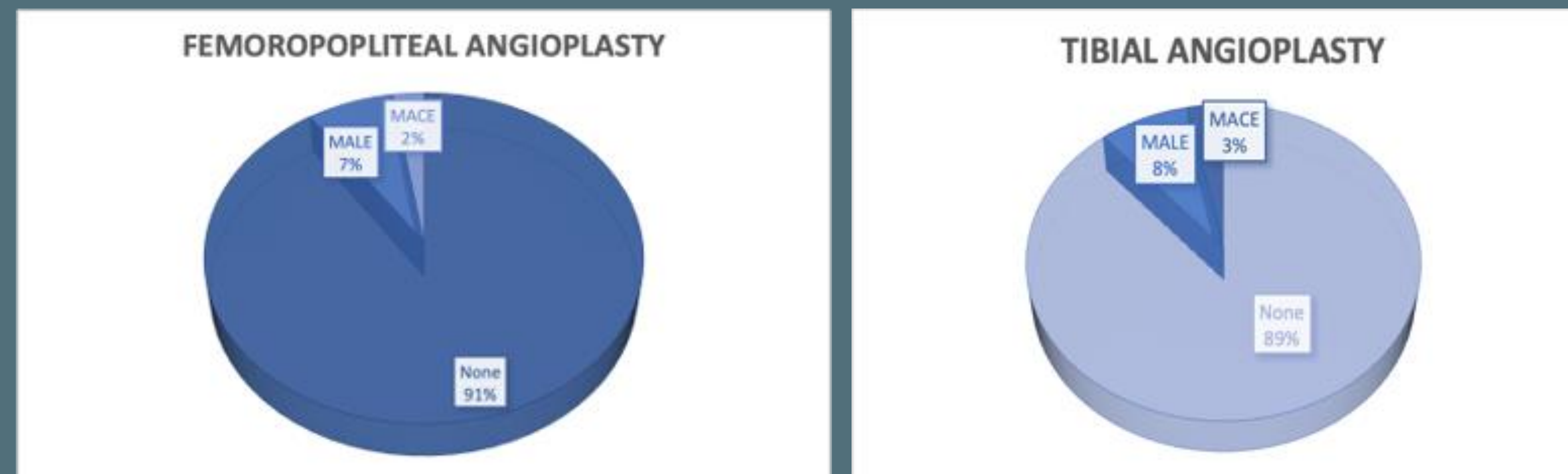


Figure 2: Graph displaying the percentage of patients who experienced MACE, MALE, or no major outcome for Femoropopliteal and Tibial angioplasty.

Baseline Characteristics by Type of Lower Extremity Procedure

Characteristics	Lower Extremity Procedure				p-value	
	Femoropopliteal Angioplasty N (%)		Tibial Angioplasty N (%)			
	N	%	N	%		
Sex					<0.001	
	Female	2461	41.55	747		31.19
	Male	3462	58.45	1648	68.81	
Ethnicity					<0.001	
	Hispanic	503	9.62	362		16.48
	Non-Hispanic	4728	90.38	1834	83.52	
Smoker					<0.001	
	No	3942	66.54	1962		81.92
	Yes	1982	33.46	433	18.08	
Diabetes					<0.001	
	Non-diabetic	2723	45.97	742		30.98
	Diabetic	3201	54.03	1653	69.02	
Dialysis					<0.001	
	No	5413	91.37	2043		85.30
	Yes	511	8.63	352	14.70	

Table1: Baseline characteristics between Femoropopliteal and Tibial angioplasty

Conclusion

•Our findings showed comparable 30-day postprocedural outcomes between tibial and femoropopliteal angioplasty procedures.

•Clinicians may have flexibility in selecting the most appropriate revascularization approach based on individual patient factors

•Future studies should include large RCTs that compare short and long-term post-procedural outcomes and explore the racial, ethnic, and comorbid disparities present in procedure selection and post-procedural outcomes.

¹.Criqui MH, Matsushita K, Aboyans V, Hess CN, Hicks CW, Kwan TW, McDermott MM, Misra S, Ujueta F; American Heart Association Council on Epidemiology and Prevention; Council on Arteriosclerosis, Thrombosis and Vascular Biology; Council on Cardiovascular Radiology and Intervention; Council on Lifestyle and Cardiometabolic Health; Council on Peripheral Vascular Disease; and Stroke Council. Lower Extremity Peripheral Artery Disease: Contemporary Epidemiology, Management Gaps, and Future Directions: A Scientific Statement From the American Heart Association. Circulation. 2021 Aug 31;144(9):e171-e191. doi: 10.1161/CIR.0000000000001005. Epub 2021 Jul 28. Erratum in: Circulation. 2021 Aug 31;144(9):e193. PMID: 34315230; PMCID: PMC9847212.