

# Prescription Trends During Lower Extremity Peripheral Artery Endovascular Interventions: Insights from the XLPAD Registry



Denizen Kocak<sup>1</sup>, Kyle Planchard<sup>1</sup>, Thomas M Das<sup>1</sup>, Atif Mohammad<sup>1</sup>, Ehrin J Armstrong<sup>2</sup>, Nicolas W Shamm<sup>3</sup>, Osvaldo Gigliotti<sup>4</sup>, Andrew Klein<sup>5</sup>, Mazen AbuFadel<sup>6</sup>, Emmanouil S. Brilakis<sup>7</sup>, Subhash Banerjee<sup>8</sup>  
<sup>1</sup>UT Southwestern Medical School, Dallas, TX, <sup>2</sup>University of Colorado, Denver, CO, <sup>3</sup>Midwest Cardiovascular Research Foundation, Davenport, IA, <sup>4</sup>Seton Heart Institute, Austin, TX, <sup>5</sup>St. Louis VA Medical Center, St. Louis, MO, <sup>6</sup>University of Oklahoma HSC, Oklahoma City, OK, <sup>7</sup>VA North Texas Healthcare System and UT Southwestern Medical Center, Dallas, TX, <sup>8</sup>UT Southwestern Medical Center and VA North Texas Health Care System, Dallas, TX

## Background

Despite peripheral arterial intervention procedures (PAI) becoming the most utilized treatment in the symptomatic peripheral artery disease patient population, adherence to guideline management therapy (GMT) has not been well described.

## Methods

PAIs (n=1532) registered in the Excellence in Peripheral Artery Disease (XLPAD) registry (NCT01904851) from 13 U.S. centers between 2005 and 2013 were evaluated for adherence to GMT at discharge post-PAI, which is comprised of antiplatelet therapy (APT), lipid-lowering therapy (LLT), and renin-angiotensin pathway inhibitors (RAI) including angiotensin receptor blockers (ARB) and angiotensin converting enzyme inhibitors (ACEI). In addition, a subset of patients (n=365) were tracked over a three year period and adherence to GMT and adverse events were analyzed in SAS using a Cox proportional hazard ratio adjusted for baseline characteristics.

## Results

Analysis of 1532 PAI in the study periods (n=55 in 2005-2007, n=314 in 2008-2010, and n=1,163 in 2011-2013) demonstrates an exponential rise in PAIs, consistent with national U.S. trends. This rise in PAI was not accompanied with an equally robust adherence to GMT. Excluding the limited number of patients enrolled from 2005-2007, the period between 2008 and 2013 demonstrates suboptimal adherence to GMT across all therapy groups. APT prescriptions fell from 90% to 77%, between 2008-2010 and 2011-2013 (p<0.001), and dual-APT prescriptions remained consistently low during the periods (53% vs. 48%). Consistent with the overall trend of falling adherence to GMT between 2008-2010 and 2011-2013 (55% vs. 42%; p<0.001), individual prescriptions of LLT and RAI were also significantly lower (83% vs. 66% for LLT; p<0.001 and 62% vs. 49% for RAI; p<0.001), respectively.

Analysis of prescription therapy course in a subset (n=365) patients over time showed a statistically significant drops in APT (95.9% vs. 83.8%; p<0.0001) and dual-APT (74.8% vs. 31.1%; p<0.0001) therapy at one year post-PAI and a significant decrease in dual-APT therapy between one and two years post-PAI (31.1% vs. 18.9%; p=.001) (Figure 3). Cox proportional analysis in these patients showed that APT and dual-APT prescription both significantly decreased the risk of Major Adverse Cardiovascular Events (MACE) but had little effect on Major Adverse Limb Events (MALE) (Figures 1 & 2).

Figure 1- Major Adverse Cardiovascular Event Rates Following Peripheral Arterial Intervention Procedures in n=365 Subset

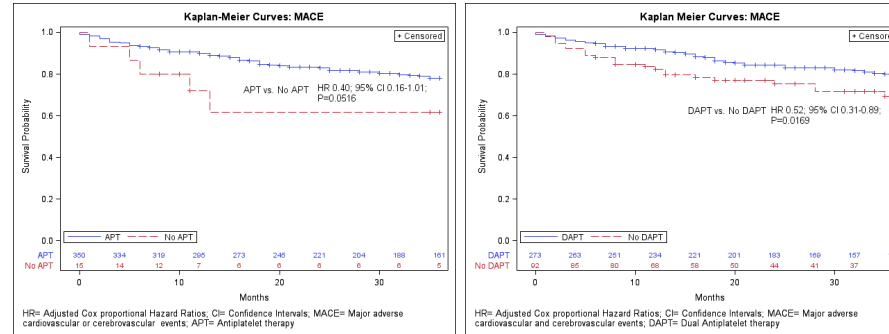
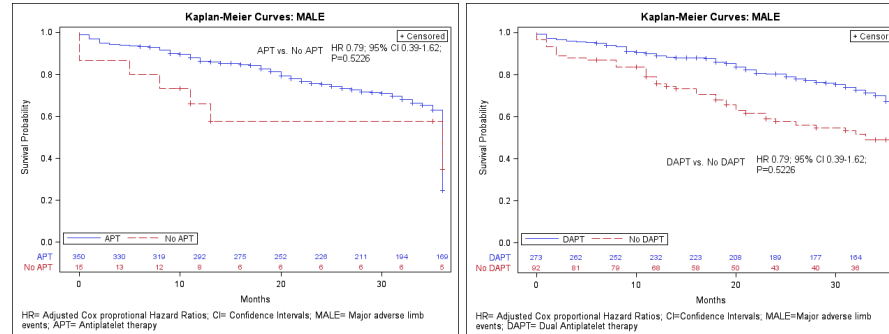


Figure 2- Major Adverse Limb Event Rates Following Peripheral Arterial Intervention Procedures in n=365 Subset



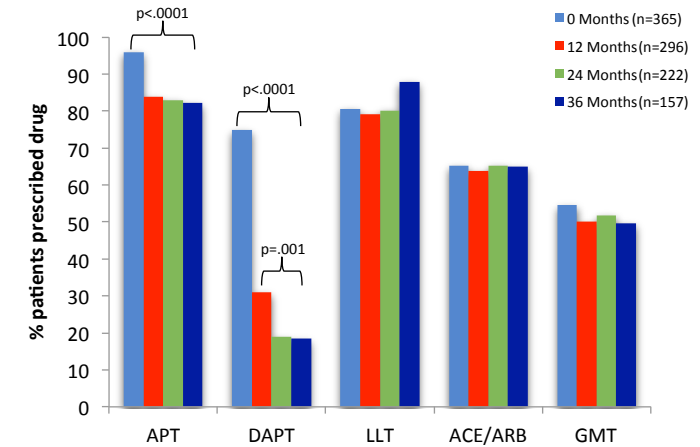
## Conclusion

Suboptimal adherence to GMT shows an urgent need for national performance standards to monitor GMT following peripheral arterial intervention and establish guidelines for duration of therapy in order to improve outcomes in the PAD population.

Table 1: Baseline Characteristics in n=365 Subset

Age	64.5±8.0	Prior CABG	27.1%	HLD	82.7%
ABI	0.66±0.22	Prior Stress Test	8.2%	Tobacco Current	62.2%
Rutherford	3.34±0.77	Prior USA	19.5%	Tobacco Past	31.5%
CLI	26.4%	NSTEMI	8.5%	Tobacco Never	6.3%
CAD	51.5%	CHF	18.6%	CKD	27.7%
Prior MI	23.3%	HTN	88.0%	SBP	134.0±19.7
Prior PCI	28.5%	DM	56.2%	LDL	81.8±35.3

Figure 3: Drug Therapy at Follow-up in n=365 Subset



**Financial Disclosures:** Nicolas Shamm- Research grants or subsidies for MCRF-based research projects (to the Midwest Cardiovascular Research Foundation) All research grants and support are sent directly to MCRF. Significant Grants for investigator initiated studies have been received from Boston Scientific, Possis, Edwards, the Medicines Co, ev3, Schering-Plough, Fox-Hollow, Spectranetics, Atrium, Gilead, Medtronic, Genesis Foundation, CSI, Bayereducational grants/ philanthropic support from industry (to the Midwest Cardiovascular Research Foundation) Abbott Vascular, AGA Medical, Astellas Pharmaceuticals, AstraZeneca, Boehringer-Ingelheim, Boston Scientific, Cordis Vascular, Daiichi Sankyo, ev3, Gilead Sciences, IDEV Technologies, Lilly USA, Pfizer, BMS, The Medicines Company, Medtronic Cardiovascular, Spectranetics, St. Jude Medical, Takeda Pharmaceuticals, Terumo Medical, and Zoll Lifeset. Consultant CSI, Medicines Company, Covidien/ev3, NAMS, Boston Scientific, Covidien. RF ablation procedure Boston Scientific, JetStream Atherectomy CSI. Orbital atherectomy, Atif Mohammad-Medicines Company, Ehrin Armstrong-Abbott Vascular and Spectranetics ; Emmanouil S Brilakis MD – Sanofi, Janssen, St. Jude Medical, Terumo, Asahi, Abbott Vascular, Boston Scientific, Guerbet, Medtronic (spouse), Subhash Banerjee MD - Boston Scientific, Medicines Company, Gilead, St. Jude, Cordis, Boehringer Ingelheim, Sanofi, Medtronic, Mdcare Global (spouse), HygeiaTel

The research presented in this poster was sponsored by the UT Southwestern Summer Medical Student Research Program

