Objective(s):
The effects of angiotensin converting enzyme inhibitors and angiotensin receptor blockers (ACEI/ARBs) on angiogenesis, myocardial remodeling and intermittent claudication has been studied. Limited data exists on their effect on the vascular remodeling after endovascular intervention for tibial arterial disease (TAD). We hypothesized that the use of ACEI/ARBs decreases re-interventions after endovascular revascularization in TAD patients for critical limb ischemia (CLI).

Methods:
This is a retrospective longitudinal study comparing the effects of ACEI/ARBs on the outcomes after endovascular revascularization for TAD. From January 2014 to June 2017 we divided all patients at our institution that underwent angioplasty or atherectomy into ACEI/ARBs and NoACEI/ARBs groups. Primary outcome was re-intervention rates. Secondary outcomes were primary patency rates, amputation rates and mortality rates. Data was analyzed in multivariate generalized linear models with log rank tests to determine survival in Kaplan Meier curves.

Results:
A total of 78 patients, 49 (63%) males and 29 (37%) females; mean age 67±11 years were on ACEI/ARBs before and after the intervention, whereas 105 patients 67 (64%) males and 38 (36%) females; mean age 67±13 years were not. Both groups had similar clinical demographics as well as median follow up of 12 months (interquartile range 0-24). Re-intervention rates did not differ with the use of ACEI/ARBs for both angioplasty ($\chi^2=1.733$, $P$ value 0.188) and atherectomy ($\chi^2=0.275$, $P$ value 0.600) patients. Number of re-interventions were not associated with ACEI/ARBs status, even when corrected for statin use and antiplatelet therapy (Figure 1). There was no significant difference in angioplasty and atherectomy groups respectively, in the primary patency at 12 months ($\chi^2=0.114$ $P$ value 0.735; $\chi^2=0.112$ $P$ value 0.738), amputation rates ($\chi^2=0.001$, $P$ value 0.970; $\chi^2=0.07$, $P$ value 0.787) and mortality ($\chi^2=0.553$, $P$ value 0.457; $\chi^2=2.4$, $P$ value 0.120) when comparing patients with and without ACEI/ARBs.

Conclusions:
ACEI/ARBs do not effect patency and reintervention rates for the patients undergoing endovascular revascularization for TAD. Similar to their effect on claudication, more randomized studies are needed to define their role, if any, in limb salvage in the patients with CLI.