BACKGROUND: Predictors of adverse clinical outcomes after femoropopliteal revascularization remains unclear in the era of nitinol stenting.

METHODS: We conducted a single center retrospective study to investigate factors associated with clinically-driven reintervention or reocclusion in consecutive patients requiring femoropopliteal nitinol stenting between 2012 and 2013. First generation stent (E-Luminexx or Smart) was used during the first year and second generation stent (Misago) during the second year. The primary endpoint was freedom from target lesion revascularization (TLR) and reocclusion at 1 year.

RESULTS: This study included a total of 107 lesions of 84 limbs in 73 patients (56 men; 73±7 years). The median stent length was 90mm (40-400) and 36.4% were chronic total occlusion. Device success was achieved in 100%; 107 lesions were all successfully treated with 152 stents (1.8 per limb basis). Freedom from TLR or reocclusion was 68.2% at 1 year. According to the Cox proportional hazards regression model, the generation of nitinol stent was the strongest independent clinical predictor (P value; 0.004, hazards ratio; 2.96) of TLR and reocclusion followed by prior surgical revascularization (P value; 0.04, hazards ratio; 2.23) and ACE inhibitor/ARB use (P value; 0.015, hazards ratio; 0.41) (Figure).

CONCLUSION: New generation nitinol stent might be able to reduce TLR or reocclusion at 1 year after stenting in the clinical setting.