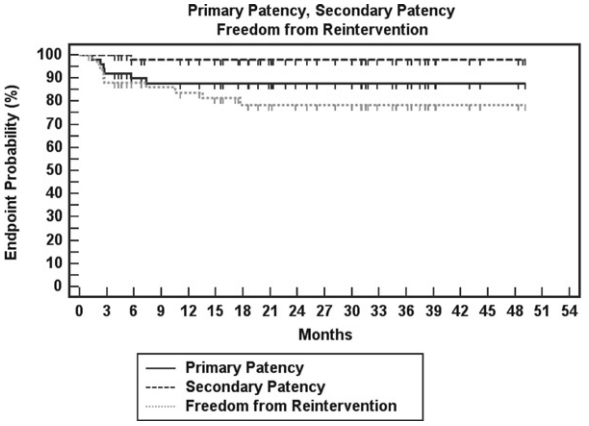

Conclusions: Midterm results with Viabahn endovascular stent-graft exclusion of asymptomatic popliteal artery aneurysms are promising with few complications and continue to match historical results with surgical arterial reconstruction.

Author Disclosures: H.A. Rajasinghe, None; **S.H. Chahwan,** None; **A. Tzilinis,** None.

PP33.

Contemporary Management of Critical Lower Limb Ischaemia (CLI) with TASC C and D femoro-popliteal lesions. 5-year Comparative Trial of Subintimal Angioplasty (SIA) or Bypass surgery (BS)

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CLI patients face a dismal prognosis with one year mortality up to 30% Infra-popliteal BS is a demanding procedure with poor long-term survival. A minimally invasive therapy with equivalent results would be more appropriate. SIA is easy to execute; requires short hospital admission and lower costs. Primary endpoints are sustained clinical improvement (SCI) and amputation free survival (AFS). Secondary endpoints are BinaryRrestenosis (BR) rate, Freedom from target lesion revascularisation (TLR), risk of Major Adverse Clinical Events (MACE), Quality Time Without Symptoms of disease or Toxicity of Treatment (Q-TWiST) and cost-effectiveness. From 2002-2007, 1076 patients were referred with PVD. 334 primary procedures (SIA=206, BS=128) in 309 patients (NSIA=190, NBS=119) with TASC C and D lesions were prospectively compared Mean age (SIA 73+/−13yrs vs. BS 70+/−14yrs, p=0.127), and co-morbidity severity scores (P>0.05) were similar between groups. 5-year SCI was 82.8% for SIA and 68.2% for BS (p=0.106 h=0.65, 95%CI=[0.38-1.11]). 5-year all-cause survival was similar for SIA (78.6%) and BS (80.1%), p=0.7343. 5-year AFS was comparable (SIA 72.9% vs. BS 71.2%, p=0.9765). Hyper-fibrinogenaemia and elevated CRP had negative effect on AFS (p=0.009, RR2.4, 95%CI=1.2-4.6 and p=0.019, RR1.02, 95%CI=1.01-1.04, respectively). 5-year freedom from BR were (SIA72.8% vs.BS65.3%, p=0.7001). Hyper-homocysteine had significant adverse effect on risk of BR for SIA (p=0.008) and BS (p=0.019) Results were not effected by stent use (35%, p=0.780) or mean number of stents (RR1.3, p=0.330). 5-year freedom from TLR was (SIA 85.9% vs. BS 72.1%, p=0.262). Risk of MAE (P<0.002) and length of hospital stay (LOSSIA14+/−16days vs. LOSBS24+/−23days, P<0.0001) were significantly reduced with SIA. Q-TWiST significantly improved (P<0.001) and cost per QALY (SIA: €5,663 vs BS: €9,172, P<0.05) reduced with SIA. 5-year risk of re-intervention (p>0.05) and mean number of procedures (SIA 1.19 vs. BS 1.10, p=0.078) were similar. BS is an independent risk factor for MACE. 5-year Freedom from MACE in SIA is enhanced by 20%. SIA enhances patient-specific Q-TWiST with substantial cost reduction, is minimally invasive and allows for a high patient turnover without compromising limb salvage. SIA has caused a Paradigm Shift in CLI Management.

Author Disclosures: S. Sultan, None; **N. Hynes,** None.

PP34.

Inflow and Outflow Improvement by Endovascular Procedures During Surgical Revascularization of Lower Limbs.

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Background: Endovascular revascularization techniques (ERT) are increasingly performed in the treatment of critical limb ischemia (CLI), however their role as an adjunct to open surgical revascularizations (OSR), has been scarcely investigated, particularly as a method to improve outflow. We have evaluated early and long-term results of CLI revascularization obtained by OSR with either proximal or distal simultaneous ERT.

Methods: A series of consecutive patients undergoing simultaneous OSR and ERT for CLI have been prospectively evaluated. Cases were divided into three groups: GI: inflow procedures - ERT was performed proximally to the proximal anastomosis of OSR; GII combined procedures - profundoplasty and distal ERT; GIII - proximal OSR and distal ERT. Choice for simultaneous ERT was made when a sufficient length of autologous graft was unavailable or in order to significantly reduce the magnitude of OSR. Results have been evaluated clinically and by duplex scanning perioperatively and at 3, 6, 12, 18, 24 and 36 months and calculated by life table analysis. Differences between groups were assessed by log-rank test.

Results: In a series of 867 treatments for CLI, simultaneous OSR and ERT were performed in 52 cases (5.9%) (GI: 23 - 44.2%, GII 11 - 21.1%, and GIII 16 - 30.7%), with perioperative patency of 100%. Follow-up was available in 50 cases (94%) for a mean of 11.5 ± 8.8 months. Overall patency and survival at 36 months were 59.5% and 79.6% respectively (GI: 74.1% and 70.8%, GII 60.6% and 90.9%, GIII 34.4% and 100%, p=0.16 and 0.54 between groups).

Conclusions: Regardless of the strategy utilized, ERT are a valuable adjunct to OSR and may help to minimize the impact of OSR. Early and long-term results in cases with known unfavourable expectation are encouraging. Inflow and outflow ERT have similar impact on results.

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PP35.

Assessment of Self-Expanding Nitinol Stent Deformations Implanted into the Femoropopliteal Artery

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Objectives: Endovascular stenting has emerged as a promising therapy for femoropopliteal occlusive disease, but stent fractures remain a safety concern. The aim of this study was to quantify the degree of deformations encountered by nitinol stents when implanted into patients.

Methods: Patients undergoing femoropopliteal endovascular stenting were eligible for study. Stent deformations were assessed by measurement of stent length, deflection angle and bending radius via lateral view radiograms obtained two days and six months following implantation with the patient in three positions: neutral standing (knee/hip flexion 0°/0°), simulated ambulation (knee/hip flexion 70°/20°) and simulated stair climbing (knee/hip flexion 90°/90°).

Results: Nineteen stent implantations in seventeen patients were assessed. Stents were confined to the superficial femoral artery (SFA) in eleven cases, extended to the proximal popliteal artery (SFA/prox pop) in two cases (defined as terminating at least 3 cm above the intercondylar fossa) and crossed the knee joint (popliteal) in six cases. Single stents of 80 or 100 mm length were implanted in sixteen cases; overlapped stents were required in three cases. Leg flexion was associated with 5-10% shortening (compression) of the stent, the greatest amount being observed for stents implanted into the popliteal artery (SFA 3.1%±1.8%, SFA/prox pop 5.3±0.5%, popliteal 8.6%±3.2%). Profound stent bending (deflection angle 64°±16°, bending radius 22±2 mm) was observed in the popliteal artery, with slight bending in the SFA stents (SFA 5°±2°, 138±53 mm; SFA/prox pop 8°±4°, 55±10 mm). Follow-up examinations were performed in fourteen stent implantations of thirteen patients after a mean follow-up of 7.1±1.3 months. In these patients, the degree of stent deformation during leg flexion was essentially unchanged as compared to immediate post-procedure levels.

Conclusions: In patients with femoropopliteal occlusive disease, indwelling nitinol stents are routinely bent and compressed during leg flexion. Stent bending is considerably more pronounced after implantation into the popliteal artery as compared to the SFA. As the observed levels of compression and bending were unchanged after six months, short-term vascular remodeling appears to have no effect on stent deformation.

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