Results: In the 96 patient study, mean effective dose for EVAR was 12.6mSv (.23 - 80.9), and mean FT was 18.8mins (.2 - 64.6). Phantom studies determined patient entrance dose for selected FOV (36, 28, 20 and 14cm) as 3.65, 5.32, 8.46 and 15.6mGy/min for Fluoroscopy and 1.1, 1.94, 3.15 and 3.8mGy/frame for DSA. The 7 patient study showed mean number of digital frames was 191 (100 - 376) and maximum calculated skin dose was 1.3Gy, below deterministic injury threshold. Stochastic risk for EVAR and associated CT was < 1/800.

Conclusions: Our data confirms a significant variation in radiation exposure during EVAR. We have combined clinical and phantom data to calculate the radiation dose per individual step. This has the potential to be used as an educational tool and to support optimization and dose reduction.

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PS196.

Ultrasonic Debridement for the Treatment of Infected Grafts

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Objective: To evaluate our results when we employed an ultrasound debridement system to treat infected grafts.

Methods: Patients with poor medical conditions and those with unavailable autogenous grafts underwent an accurate debridement of the grafts and surrounding tissue with an ultrasonic debridement machinery. Complete graft removal and Sartorius flap to cover the inguinal region were selectively employed. We used a powerful ultrasonic generator (Genera, Italia Medica, Milan, Italy) which operates activating a probe mounted on a piezoelectric transducer. The probe vibrates at 26 KHz with a vibratory amplitude of 15-30 µm and it is irrigated with normal saline. The probe generates mechanical-vibratory and cavitational energy which allow a complete debridement of the necrotic and infected tissue. The caloric energy developed implements the killing bacteria effect of the former.

Results: 11 patients (median age 67 years) with a prosthetic vascular graft infection (early in 9 cases and a late in 2) received an extensive US debridement to allow the lower invasive reconstruction to be performed (i.e. in situ vs extra-anatomic). Estimated freedom from recurrent infection was 90, 1% at 6 months and 75, 8% at 1 and 2 years.

Conclusions: In our experience US debridement of infected grafts obtained promising results. This allowed us to treat patients more conservatively without compromising the chance of success.
Objective: The contemporary use of endovascular techniques has progressively limited the role of bypass grafting. As a result of this paradigm shift and improvement in graft materials, long-term complications like femoral anastomotic pseudoaneurysms (FAPs) may be less frequently encountered, resulting in limited exposure to present-day trainees. The aim of this study was to investigate changes in the incidence and outcome of FAPs.

Methods: Over a 20-year period (1987-2006 inclusive), 90 patients (61 males) underwent 120 operations to repair 125 FAPs. All but four of these aneurysms occurred after aortofemoral grafting. Most patients presented with an isolated pulsatile groin mass; three presented with acute expansion/rupture. Prosthetic interposition graft repair was performed in 97.4% and primary repair in the remainder.

Results: The number of repairs steadily declined over the study period with the number of repairs performed during the study’s consecutive quarters being 54, 41, 19 and 6, respectively. Morbidity did not change over the course of the study and averaged 33%, but mortality did decrease from 5.3% during the first decade to 0% during the second decade (p = 0.58). Demographics, associated risk factors and diseases did not influence the above outcomes. Five-year reoperation-free rate for FAP recurrence was 98% for primary repair or PTFE grafting and 85% for Dacron grafting (p = 0.057); postoperative wound complications did not affect these rates. Five and ten-year patient survival was 55% and 34%, respectively. Multivariate analysis with Cox regression identified chronic renal failure and COPD as independent predictors of worse long-term survival (relative risks, 3.6 and 3, and p values, 0.001 and <0.001, respectively).

Conclusions: Although performed less frequently, FAP repair is still associated with considerable morbidity. Compared to Dacron, PTFE interposition graft repair is associated with a reduced recurrence rate.

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PS200.

Post-Discharge 30-Day Mortality After Vascular Surgery
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Objective: Post discharge outcomes are seldom included in hospital quality reporting systems. Using the NSQIP database we analyzed risk factors related to inpatient vs outpatient death as well as the time distribution of 30-day mortality.

Methods: We queried the ACS-NSQIP data set from 2005 to 2008 for vascular surgery using CPT and ICD-9 codes. Primary outcomes analyzed were postoperative in-hospital and post-discharge death. Adjusted odds ratios (OR) for timing and location of death were calculated by procedure, diagnosis as well as preoperative and intraoperative risk factors.

Results: Our query resulted in 73,833 vascular surgery patients. 25% of deaths occurred after discharge. Overall, preoperative risk factors predictive of post discharge mortality were creatinine>1.2 (OR 1.7), COPD (OR 1.3), steroid treatment (OR 1.7) and dependent functional status (OR 2.7). The timing of in-hospital vs post discharge death is shown in the figure. Lower extremity amputation was the only procedure with significantly higher risk of death after discharge (OR 1.6).

Conclusions: In the 30-day postoperative period after vascular surgery 1/4th of deaths occurs after discharge; it is unclear whether this is a result of premature discharge. In-hospital mortality as a performance measure may be unreliable in view of our findings. We identified factors that correspond to higher risk of post discharge mortality; recognition of patients with this risk profile, appropriate management of discharge planning and follow-up care may lead in reduction of death rate after discharge.

Distribution of 30-day mortality

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C11: Poster Presentation II -Research (1)

PS202.

Durable Effect of Nitric Oxide at Inhibiting Neointimal Hyperplasia Is due to Modulation of Cellular Populations Throughout the Arterial Wall
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