Methods: Ten end-to-side arteriovenous fistulas were created with a novel anastomotic device (Optiflow™). The primary safety endpoint was freedom from serious adverse events (SAEs) and unanticipated adverse device events (UADE) at 42 days. The primary effectiveness end point was technical success (patent AVF without complications) at the end of surgery.

Results: Mean age of the patients was 45 +/− 12.2 years (6 male, 4 female, 1 diabetic, 100% forearm AVFs). There were no SAEs/UADEs related to the immediate placement of the Optiflow. One patient had a pseudoaneurysm at 21 days which was not device related. All patients achieved technical success and 9/10 patients reached the secondary effectiveness end point (technical success + primary patency at 42 days). Median venous diameter of the proximal vein at 42 days was 8.8 mm (7.2-11.5 mm) as compared to national guidelines of 6 mm.

Conclusions: These data confirm technical feasibility and safety of the Optiflow™ device and also describe initial efficacy data. Future studies will focus on a more prolonged follow-up in a larger number of patients. We believe that the Optiflow™ device could be an important adjunct for the quick and successful creation of "mature" AVFs in the dialysis population; resulting in reduced costs and an improvement in patient care.

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PS100.

Transradial Approach for the Treatment of Non-maturing Hemodialysis Fistulae: An Alternative Percutaneous Approach

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Objectives: Percutaneous angioplasty of non-matured proximal arm hemodialysis arteriovenous fistulae presents a unique challenge given the frequently non-arterialized vein and the awkward working angle. We describe our technique using a transradial approach.

Methods: In a single center, patients with non-maturing proximal arm fistulae were included. They were offered percutaneous angioplasty or creation of a new fistula. Patients choosing percutaneous angioplasty were given the option of a standard direct fistula approach or a radial artery approach. These were later categorized as the standard balloon angioplasty maturation (BAM) control group and the radial artery (RABAM) study group. Radial access was achieved with a micropuncture and glide sheath systems. Saline, heparin, diltiazem and nitroglycerine were injected directly into the artery upon cannulation. A 5F sheath was used with low profile 0.014-in platform balloons. A near-occlusive band was used for post-procedural hemostasis.

Results: A total of 32 procedures were attempted in 28 patients. Three patients were excluded from the RABAM study group due to a small artery, inability to pass a wire safely and aberrant high brachial artery bifurcation. The final RABAM study group included 14 successfully performed procedures in 11 patients and the control BAM group included 18 procedures in 14 patients. Procedural success was achieved in all patients. No major complications were noted. One asymptomatic radial artery occlusion was noted.

Conclusions: A transradial artery approach for balloon angioplasty maturation of proximal arm arteriovenous fistulae is possible and safe.

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C5: Poster Presentation I -Educational/Training Credentialing; Vascular Laboratory and Imaging; Vascular Medicine

PS102.

Development of an Endovascular Training Curriculum: Role of Simulation in Medical Student Education

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Objectives: In an effort to create objective grading criteria for an endovascular training curriculum, we sought to determine the validity of computer-generated performance criteria compared to objective structured clinical examination.

Methods: Students were enrolled and received training on the Simbionix angiomentor simulator. Demographics and survey data were obtained. Students were tested on a retrograde iliac stent (IS) and contralateral SFA stent (SS). Students practiced 3 different iliac stenting procedures and were retested on the initial 2 cases. Assessment was performed using the Global Endovascular Rating Scale (GERS) and additional data obtained from the simulator. Data analysis was done using paired t-tests and Pearson's correlation.

Results: 36 students completed training. There was significant improvement post-practice in all the measures in GERS. Practice on retrograde IS procedures translated to improved performances on contralateral SS in 41.6% (15/36) students compared to 94.4% (34/36) on IS procedures. Simulator generated values were improved for total fluoroscopy time (δ 03:04min, $p = 0.003$ for iliac and δ 6:56min, $p = 0.005$ for SFA), volume of contrast (δ 15.3 and 21.1 mL for iliac&SFA respecively, $p = 0.01$) and correct stent diameter ($p = 0.045$) but not for ACT level, residual stenosis and correct placement of stents. Students with prior endovascular knowledge found the simulator easier to use (r is 0.36, $p = 0.05$) but this did not affect