common (n=7/145, 4.8%). Transcatheter thrombolysis was attempted in 2 cases and failed to achieve antegrade flow. 2 grafts were lost (29%, n=2/7). In 3 cases (2.1%) arterial stenoses were found and responded well to angioplasty. All 3 grafts survived post treatment. In 2 grafts (1.4%) significant arterio-venous fistulae (AVF) were found and were embolized successfully. Partial venous thrombosis in 1 graft was successfully declotted utilizing a Treratola PTD device. However, it recurred (<3 weeks). In 1 case (0.7%) flow limiting arterial dissection was found (no intervention performed). Another graft (0.7%) had arterial pseudoaneurysm with associated AVF-tract and was not treated. This patient presented with lower GI bleeding and ended in graft loss requiring explantation. A patient with a failed and infected graft had an arterial embolization and iliac stent graft placement to seal off the graft artery and protect the iliac artery from pseudoaneurysm formation.

Conclusion: Vascular complications in pancreatic transplantation are not uncommon. The most common complications are graft thrombosis. However, endoluminal management of graft thrombosis appear ineffective. Endoluminal management appear to be effective for the management of AVF and/or arterial stenoses.

Tilt-Drift and Tilt-Flip: Incidence and sequelae with the Günther-Tulip inferior vena cava filter

A.A. Sagi1, C.T. Burke2, J.M. Stavas2, R.G. Dixon2, J.S. Marques2; M.A. Maturo2; 1William Beaumont Hospital, Royal Oak, MI; 2University of North Carolina, Chapel Hill, NC.

Purpose: The purpose of this study was to define the characteristics, incidence, and associated technical and clinical sequelae of tilt-drift and tilt-flip in the Günther-Tulip retrievable inferior vena cava filter (GTF).

Materials and Methods: With institutional review board approval and HIPAA compliance, a retrospective review was performed of all patients who underwent placement and attempted retrieval of the GTF between August 2003 and July 2007. Magnitude and direction of filter tilt were compared between time of placement and time of retrieval.

Results: During the study period, 190 patients underwent placement and attempted retrieval of a GTF. Within this group, 57 patient records contained cavograms demonstrating filter conformation both at time of placement and first retrieval attempt. “Tilt-drift”, a change in tilt magnitude with no change in tilt laterality, was seen in 38/57 (67%) of filters. Within the population of tilt-drift, 20/38 (35%) of filters demonstrated tilt-loss (average magnitude 2°), while 18/38 (32%) of filters demonstrated tilt-gain (average magnitude 1.8°). A total of 48/57 GTFs had tilt at both time points and within that group, “tilt-flip”, a change in tilt laterality, was seen in 14/48 (29%) of filters (P = .008, two-sided Fisher’s Exact Test). There were no documented caval thromboses or perforations, filter migrations or new acute pulmonary emboli confirmed by chest computed-tomography angiography, during the study period.

Conclusion: In conclusion, the Günther-Tulip filter frequently exhibits two interesting behaviors in situ: tilt-drift and tilt-flip. Though the long term sequelae are not known, these two behaviors resulted in only minimal clinical and technical sequelae in the current study.
Materials and Methods: This was a single center, prospective, non-randomized trial evaluating tip position after PICC placement. Following initial ultrasound-guided upper extremity venous access, a central venogram was performed to evaluate for central stenoses and/or thrombosis, and to identify the atrophicaval junction. As the PICC was advanced to the atrophicaval junction, it was connected externally to the CatFinder device. This was connected to ECG leads and a transducer to measure venous pressure. As the PICC was advanced centrally in 2.5 cm intervals, the system analyzed the delay between the two signals and converted that to the distance from the atrophicaval junction. The threshold point for success was considered 2.5 cm (+/- 1.5 cm) from the atrophicaval junction.

Results: 131 patients were enrolled in this study (mean age 54.7 years; range 19-86 years). The most common indications for PICC placement included infection (n=86) and cancer (n=23). All patients received either a 5F or 6F device. There were no complications during PICC placement. No patients had central venous stenoses or thrombosis. Using the threshold point as defined above, the success rate of predicting the tip position of the PICC within 2.5 cm from the atrophicaval junction was 95.4%.

Conclusion: The Elcam Medical Catheter Tip Locator System (CatFinder) appears to be an accurate system for PICC tip localization. Further investigation to validate the system on smaller devices is needed.

Abstract No. 326

Ovarian artery embolization (OAE) accompanying uterine artery embolization (UAE) in patients with collateral supply to symptomatic uterine leiomyomata

C. Scheurig, T.J. Kroencke; Charité Universitätsmedizin Berlin, Berlin, Germany.

Purpose: To document safety and feasibility of additional embolization of ovarian arteries in case of relevant collateral supply to symptomatic uterine leiomyomata.

Materials and Methods: Retrospective evaluation of 13 patients with symptomatic uterine fibroids and subsequent UAE supplemented by OAE. Ovarian arteries with high probability of collateral supply of uterine fibroids were detected in preinterventional magnetic resonance (MR) angiography. UAE prior to OAE was performed bilaterally in 10/13 and unilaterally in 2/13 patients due to unilaterally absent uterine artery. One patient had no uterine artery and uterine perfusion was realized via enlarged ovarian arteries - only case of bilateral ovarian artery embolization. Tri-sacryl gelatine microspheres or PVA particles were used for UAE. OAE was realized with coil-embolization in one case and particle embolization in the other twelve cases. Symptoms prior to therapy and clinical follow-up in terms of symptom relief and patients satisfaction as well as status of menses were assessed using a standardized questionnaire. Second objective was to evaluate ovarian size and contrast enhancement on MR imaging as well as the presence of follicle cysts as a parameter for vitality.

Results: Preliminary evaluation of 6/13 patients. The other follow-ups are pending but will be completed till congress date. After a mean clinical follow-up time of 31 months 5/6 patients showed improvement of clinical symptoms and were satisfied with the therapeutic effect. One patient reported only slight improvement of her symptoms. All women presented with regular menses. Five/6 patients underwent MR imaging after a mean follow-up time of 14 months demonstrating follicle bearing ovaries with regular contrast enhancement on both sides. No relevant difference in ovarian volume with 6ml on the embolized and 7ml on the other side.

Conclusion: The preliminary evaluation of six patients undergoing UAE and unilateral OAE forebodes the riskless embolization of fibroid supplying ovarian arteries without facing ovarian infarction and possibly subsequent menopause. OAE appears to be safe and advisable in order to reach the highest possible infarction rate of the fibroid load.

Abstract No. 327

C-arm CT image guided percutaneous catheter drainage of abscess

N. Seino, M. Honda, S. Sai; Showa University Hospital, Tokyo, Japan.

Purpose: Using a C-arm angiography system with a flat-panel detector cone-beam CT (C-arm CT), three-dimensional (3D) image acquisition and real-time procedural evaluation can be performed in one room without having to move the patient [1,2]. We would like to introduce our method of C-arm CT image guided percutaneous catheter drainage of abscess.

Materials and Methods: C-arm CT image guided percutaneous catheter drainage of abscess was performed in 47 patients (25 men, 22 women; age range 30-88 years) with 58 abscesses (10 psoas, 9 intradiskal, 8 intraperitoneal, 5 pelvic, 6 presacral, 3 hepatic, 2 paravertebral, 2 retroperitoneal, and 14 other). Our method was as follows: A scale with radiopaque maker was placed on the skin. A puncture point was made on a 1mm slice C-arm CT image showed the target. The distance from the puncture point to the target was measured. We rotated the 3D image till the virtual puncture line was seen as a point. C-arm angle was synchronized with the 3D image rotation. Using fluoroscopic guidance, we punctured the target. We confirmed that the target was hit on C-arm CT images. A drainage catheter was inserted using the Seldinger technique.

Results: Successful placement of the drainage catheter was achieved in 46 patient without procedural complications (success rate: 97.8%). One patient did not have drainage because a wire did not form a loop, and a catheter did not advance within an abscess. After abscess drainage, two patients recurred.

Conclusion: C-arm CT image guided percutaneous catheter drainage of abscess is an efficient and safe procedure.

References: