METHODS The principle of CCC is that determining the arrival time of contrast media by time-density curve obtained from conventional DSA pixel by pixel, followed by converting the arrival time to circulatory color phases. By this technique, blood flow is demonstrated as sequential color imaging. CCC and TTP/DSA images obtained from 19 dural arteriovenous fistulae(dAVFs) were presented to four experienced and 4 less experienced observers in a randomized order. And the observers were then asked the location(s) of the shunt and the venous drainage pattern recognized on each image. The time to detection was also recorded. The comparison between CCC and TTP/DSA were analyzed using chi-square test.

RESULTS Conventional DSA, TTP and one still image extracted from CCC images for one of typical cases were shown in Fig. 1(a), (b) and (c), respectively. CCC was superior to TTP/DSA in accuracy of shunt detection (81.6% vs 34.2%, p<0.0001), recognition of the venous drainage pattern (94.7% vs 78.3%, p<0.0001), and the time to detection (22.8 sec. vs 36.4 sec, p<0.0001). These effects were observed in both experienced and inexperienced physicians.

CONCLUSIONS CCC provided more accurate and comprehensible information of blood flow by sequential, color-coded imaging in a single window compared with combination of static, color-coded TTP images and sequential DSA images. Considering its efficacy for both experienced and younger physicians, CCC would be a very useful tool in educational and therapeutic process of managing dAVFs.

CATEGORIES ENDOVASCULAR: Peripheral Vascular Disease and Intervention

KEYWORDS AV fistula, Decision making, Intervention

TCT-805
Intravascular Ultrasound Utilization And in-hospital Outcomes In Peripheral Vascular Interventions: Insights From Nationwide Inpatient Sample

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BACKGROUND Although prior studies have demonstrated favorable outcomes with intravascular ultrasound(IVUS) in coronary interventions, there is lack of data on the impact of IVUS utilization in peripheral vascular interventions.

METHODS We queried the HCUP’s Nationwide Inpatient Sample (NIS) between 2006 - 2011 using the ICD- 9-CM code for lower extremity peripheral vascular disease and procedural codes 39.90, 00.55 for stenting, 39.50 for angioplasty and 00.23 for IVUS in peripheral vascular intervention. Only infra-inguinal procedures performed in patients >= 18 years were included. Hierarchical mixed effects logistic regression models were generated to evaluate multivariate predictors of outcomes. The primary outcome was in-hospital mortality, Co-primary outcome was amputation, secondary outcome was composite of in-hospital mortality and post-procedural complications.

RESULTS A total of 88,324 infra-inguinal vascular interventions were analyzed (weighted n = 432,718) (45.2% female & 59.5% whites). IVUS utilization was associated with significantly reduced amputation rates (5.4% vs 10.3%, p < 0.001). Multivariate analysis showed similar primary outcome (OR, 95% CI; p-value) (1.17, 0.74 - 1.86; p = 0.49) and secondary outcomes (1.06, 0.82 - 1.36; p = 0.682) but decreased amputation rate with IVUS utilization (0.56, 0.43 - 0.74, p < 0.001). Propensity score match analysis (1:10 greedy’s matching) also showed similar results. Subgroup analysis for IVUS utilization also showed similar observations with decreased rate of amputation in most subgroups (Figure). Moreover, emergent admission, higher charlsion score, weekend admission, teaching hospital were associated with higher amputation rate and private insurance and higher hospital volume associated with lower amputation rates.

CONCLUSIONS IVUS utilization results in significantly reduction in amputation rates without any impact on overall in-hospital mortality in peripheral vascular interventions.

CATEGORIES ENDOVASCULAR: Peripheral Vascular Disease and Intervention

KEYWORDS Amputation, IVUS

TCT-806
Slow and Prolonged Inflations in Percutaneous Transluminal Angioplasty is as Effective as Stenting in Peripheral Vascular Interventions

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BACKGROUND The benefit of stent implantation over percutaneous transluminal angioplasty (PTA) in patients undergoing peripheral vascular interventions (PVI) has not been well described. Original data supporting stents over PTA was in an era without routine atherec-tomy, and more recent data including chronic total occlusions (CTO) and longer lengths demonstrated no difference.

METHODS 551 patients undergoing PVI were identified from January 2011 to January 2015. Success was defined by a composite improvement of ankle brachial index (ABI) to over 0.9, an ultrasound velocity of less than 250 m/s, or Rutherford classification improvement. All PTA was performed over a slow inflation over 5 minutes. A Pearson chi-square and multivariate analyses were used to determine results.

RESULTS 274 (49.72%) patients received PTA alone and 277 (50.28%) received stents. Although more patients with diabetes and longer lesion length were in the PTA group, stenting did not improve the individual or composite success endpoints. Even when correcting for these differences in a multivariate analysis.