

angiographic findings. The data were then used to calculate the positive predictive value of the SMW in predicting a hemodynamically significant distal lesion.

**Results:** There were 46 limbs (43 patients) that qualified for inclusion in the study. Of these, two cases were eliminated due to unclear angiographic findings. Of the 44 remaining limbs that qualified, there were 36 (81.8%) cases in which the presence of SMW was associated with distal lesions and 8 (18.2%) cases in which it was not. This gives the presence of SMW a positive predictive value of 81.8% in predicting disease distal to its location.

**Conclusions:** SMW is helpful in diagnosing hemodynamically significant distal arterial obstruction. It is a waveform that is distinctly different from biphasic or poor monophasic waveforms both in morphology and diagnostic significance. Further studies are needed to prospectively examine these findings that could improve the diagnostic accuracy of arterial ultrasound.

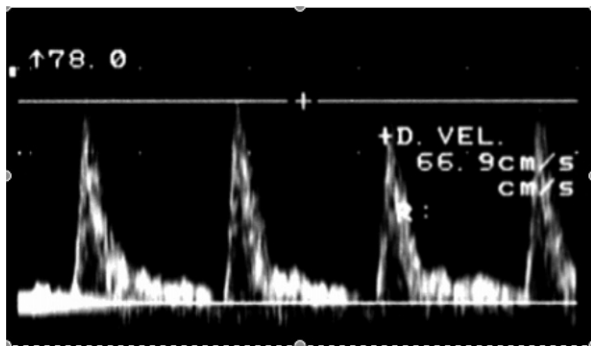


Fig.

**Author Disclosures:** J. Clements: Nothing to disclose; N. Katragunta: Nothing to disclose; J. Lee: Nothing to disclose; C. LeSar: Nothing to disclose; L. R. Sprouse: Nothing to disclose.

#### PS174.

**Technical Superiority and Clinical Excellence of Duplex Ultrasound Arterial Mapping (DUAM) versus Magnetic Resonance Angiogram (MRA) as the Sole Imaging Modality in Bypass Surgery (BS) and Endovascular Revascularization (EVR) for Critical Lower Ischemia (CLI) Patients: A Six-Year Comparative Study in a Tertiary Referral Vascular Centre**

Sherif Sultan<sup>2</sup>, Wael Tawfik<sup>1</sup>. <sup>1</sup>Vascular & Endovascular Surgery, Western Vascular Institute, Galway, Ireland; <sup>2</sup>Galway Clinic, Galway, Ireland

**Objectives:** Our endeavour is to appraise DUAM as the exclusive imaging modality when planning for CLI EvR. Primary endpoint is sensitivity and specificity of DUAM, compared to MRA or DSA. Secondary endpoints

were procedural, hemodynamic, clinical outcomes, Cost-effectiveness and amputation free survival.

**Methods:** DUAM was the sole pre-operative mapping modality. MRA was only used where DUAM was inconclusive due to heavy calcification. From 2002 to 2009, 3490 patients were referred with peripheral vascular disease. 483 patients underwent revascularisation for TASC C/D lesions (EvR:n=310; BS:n=173).

**Results:** DUAM displayed 97% sensitivity and 98% specificity in identifying lesions requiring intervention. MRA was utilized in 62 patients (12.8%) with 82% specificity. DUAM accurately identified the total number of target lesions for revascularisation (TLR) however MRA overestimated it. The expenditure of DUAM is lower than both DSA and MRA. Of 421 procedures based on DUAM, immediate clinical improvement was comparable between EvR and bypass surgery (BS), with improvement to Rutherford category 3 or less 98% in EvR and 97% in BS ( $P = .71$ ). 6-year freedom from binary restenosis was 72.8% EvR and 65.3% BS ( $P = .7001$ ,  $hr=1.10$ , 95% CI=[-0.69-1.74]). 6-year amputation free survival was 72.9% EvR and 71.2% BS ( $P=.9765$ ,  $hr=0.95$ , 95% CI=[-0.60-1.51]).

Comparing procedures performed based on DUAM to those based on MRA, 6-year binary re-stenosis was 69% for DUAM procedures Vs 57% for MRA procedures ( $P = .02$ ,  $hr=0.255$ , 95% CI=[0.09-0.71]).

**Conclusions:** DUAM is an outstanding pre-operative imaging tool and epitomizes a minimally invasive modality to road-map EvR for CLI and offers precise consecutive data with hemodynamic outcome and limb salvage superior to EvR based on MRA. We believe that DUAM is economically proficient, primary modality for managing patients with CLI.

**Author Disclosures:** S. Sultan: Nothing to disclose; W. Tawfik: Nothing to disclose.

#### PS176.

**CT Angiography-Based Cross-Sectional Area Measurements for Carotid Stenosis with Contralateral Carotid Occlusion**

Anthony Carnicelli, Jonathan Stone, Adam J. Doyle, David Gillespie, Michael Singh, Jason Kim, Baback Jahromi, Ankur Chandra. University of Rochester Medical Center, Rochester, NY

**Objectives:** Previous studies have shown poor correlation of duplex velocity criteria and contrast angiography for quantifying carotid stenosis in the setting of contralateral carotid artery occlusion. CT angiography (CTA) is frequently used for evaluation of carotid stenosis. This study aimed to determine whether CTA-derived cross-sectional area correlates to duplex velocity criteria for carotid stenosis with contralateral carotid occlusion.

**Methods:** A retrospective review was conducted to identify a cohort of patients undergoing both carotid