Multiple Variables Impacting Correct Assessment of Carotid Duplex Findings
Meghan Bennett

Introduction/Patient Description
Internal carotid artery (ICA) origin size, relative level of the contralateral carotid bifurcation, external carotid artery (ECA) branching and response to temporal artery tapping (TAT) have been used to help differentiate the ICA from the ECA in carotid ultrasonography. This case study presents a misdiagnosed ICA occlusion due to vessel size, false positive TAT response and significantly dissimilar carotid bifurcation levels. A 48-year-old-female presented with left arm numbness and weakness. Previous medical history included migraine headaches, hypertension, hyperlipidemia and smoking; a neurology consult recommended carotid ultrasonography.

Methods
Two carotid duplex exams were performed. The first study was equivocal. The second was performed at another location for clarification which resulted in a recommendation for computed tomography angiography (CTA) imaging.

Results
The initial exam reported non-visualization of the right ICA with possible ICA occlusion and >50% left ICA stenosis. The second exam noted a right common carotid artery (CCA) stenosis with < 50% ICA stenosis, and 50-69% left ICA stenosis possible falsely elevated velocities due to the contralateral CCA stenosis. CTA of the right carotid detailed a mid CCA stenosis, markedly disparate carotid bifurcation level that was 5 cm higher than the left and diminutive ICA with insignificant stenosis. No significant left ICA stenosis was noted.

Conclusion/Discussion
Proper identification of the ICA and ECA are vital to the interpretation of carotid duplex exams. The ICA origin diameter should not always be considered larger, TAT is not always dependable for identifying the ECA and
variability of the right and left carotid bifurcation is common. Knowledge of these variables are important for correct assessment and interpretation of the carotid duplex exam.

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Ulnar Artery Aneurysm and Repair

Maria Cardinale, BA RVT

Introduction/Patient Description
Ulnar artery aneurysm with reconstruction. Patient presented to the emergency room with ischemia of the left third, fourth and fifth fingers and a pulsatile mass in the hypothenar eminence.

Methods
An upper extremity ultrasound was performed demonstrated normal Doppler flows throughout. Distal to the wrist there was a branch of the ulnar artery joining the palmar arch which exhibited abnormal dilatation and echogenic material within with abnormal antegrade and retrograde flow within the vessel indicative of an aneurysm.

Results
Thrombolysis was attempted for 24 and 72 hours with inadequate results. Due to the high risk of limb threat and potential recurrent thrombosis and embolization, the surgeon decided to operate.

Conclusion/Discussion
At the time of surgery an eccentric aneurysm approximately 1.5 centimeters long was identified which did not involve any of the digital arteries. The patient underwent a resection of the left ulnar artery aneurysm with vein graft reconstruction using a piece of cephalic vein. Although the non-invasive peripheral arterial study in this case was essentially normal with appropriate triphasic Doppler flows documented throughout the subclavian, axillary, brachial, radial and ulnar arteries, the proficient technologist knew to investigate further than the standard protocol due to the patient’s symptomology which assisted the physician and patient for treatment. In an age of financial constraints, cutting costs and increasing
workloads for all healthcare professional, we must not lose sight of our main goal: the patient.

Atypical Gray Scale Flow Pattern Predictive of Brachiocephalic Vein Thrombosis
Abraham Ettaher

Introduction/Patient Description
Direct visualization of thrombus with gray-scale ultrasonography has been considered unreliable for detecting deep vein thrombosis (DVT) in central veins of the upper extremity. Retrograde color and spectral Doppler analysis of the internal jugular vein (IJV) has proven reliable for defining DVT in the brachiocephalic vein. We present two cases of brachiocephalic vein obstruction predicated by an atypical flow pattern captured with gray-scale cine-loop. Case-1: 86 year old male with left hand swelling and previous medical history of coronary bypass, atrial fibrillation and pacemaker. Case-2: 59 year old male emergency room patient with left upper extremity swelling and previous medical history of end-stage renal disease, left arteriovenous fistula, hypertension and diabetes.

Methods
Upper extremity venous duplex exams were performed on both cases. Based on the venous duplex findings, computed tomography (CT) scan of the chest was ordered for Case-1; a fistulogram and central venogram were requested for Case-2.

Results
In both cases gray-scale cine-loops demonstrated abnormal intraluminal content within the left IJV. Echogenic thrombus shards or striated platelet aggregates were noted moving in a retrograde fashion. Spectral Doppler analysis demonstrated markedly dampened retrograde IJV flow with minimal cardiac pulsatility. CT scan of the chest revealed pacer wires within an occluded left innominate in Case-1. The fistulogram and venogram detailed an occluded left innominate vein and stent in Case-2.
Conclusion/Discussion
Retrograde IJV spectral Doppler and color flow analysis have been used to identify brachiocephalic DVT, however, an atypical gray scale flow pattern demonstrated in cine-loops in these case studies may offer additional confirmation of brachiocephalic vein thrombosis.

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Carotid Artery Duplex Exam Post Head and Neck Radiotherapy
Cristina Madoch

Introduction/Patient Description
A carotid artery Duplex exam was ordered for a 71 year old female with a history of external beam radiation therapy (EBRT) to her neck.

The patient has a history of squamous cell carcinoma of the supraglottic larynx previously diagnosed in the year 2000. Treatments included EBRT, tracheostomy and laser vocal cord cordectomy. The right side of her neck is tight, discolored, fibrotic and concave with little to no skin elasticity. The patient also has limited neck mobility and is only able to turn her head slightly in any direction. She is a former 1 pack/day 20-year tobacco user; other current risk factors include hypertension and hyperlipidemia.

Methods
An L9-3 linear array transducer was used to evaluate the extracranial arteries. The patient was supine with the head of the cart positioned at a 45-degree angle for patient comfort. A significant amount of acoustic gel was applied to the transducer; this was done in order to compensate for air gaps created by the irregular surface of her neck.

Results
Color and Doppler signals were absent in the right mid to distal ICA. A staccato waveform in the right ICA ostia added to the evidence of an occlusion distal to this segment. Color flow and Doppler signals were also absent in the right VA. All signals in the left extracranial vessels were within normal limits.
Conclusion/Discussion
EBRT is a comprehensive treatment for head and neck cancer patients with remarkable survival rates. Unfortunately, these treatments can result in increased IMT, accelerated atherosclerosis and vascular injury - contributing to a higher risk of cerebrovascular events. Research demonstrates that ultrasound screenings and examinations are essential for the early detection and possible intervention of late radiation induced complications from head and neck EBRT.

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Case Study: Diagnosis of Congenital Absence of the Left Common Carotid Artery by Ultrasound in a Patient with a Right-Sided Aortic Arch
Dianne Masri, AS BS MA RDMS RVT

Introduction/Patient Description
Absence of the common carotid artery (CCA) is a rare congenital anomaly. It is typically asymptomatic unless associated with an accompanying arterial lesion that results in a work-up for symptomatic intracerebral pathology or a focal neurological deficit. This case report describes an uncommon finding of the left internal and external carotid arteries originating separately from a right-sided aortic arch.

A 90 year old female with a history of hypertension, atrial fibrillation, cardiomyopathy and multiple TIA’s presented to the emergency department for acute onset of flaccid paralysis of the left arm and leg and slurred speech. Agenesis of the left CCA was diagnosed by duplex imaging.

Methods
Carotid duplex was performed with cine-loop B-mode imaging (Philips iE33), color and pulsed Doppler using L9-3 MHz linear array transducer. Dynamic images and spectral Doppler confirmed the characteristic flow patterns of the internal and external carotid arteries.

Results
Dynamic Duplex imaging revealed two arterial vessels each with distinct
waveform patterns, high resistive and low resistive flow, identified as the internal and external carotid arteries ascending separately from a single infraclavicular vessel. The CT Angiographic findings reported a duplicated left CCA with 80-90% stenosis in one of the vessels and supported the ultrasound finding of the ICA and ECA which originated from a right-sided aortic arch. The CT perfusion scan demonstrated decreased flow in the left middle cerebral artery in comparison to the contralateral side. The patient’s speech deficits and hemiparesis resolved after TPA was administered.

Conclusion/Discussion
Duplex imaging is a valuable and sensitive imaging adjunct, being both immediate and inexpensive, in addition to noninvasive to demonstrate agenesis of the CCA. The ICA and ECA are readily identified by their characteristic flow patterns of low and high resistance depicting ultrasound as the leading diagnostic test to delineate the arterial anatomy of the neck.

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**Left Subclavian Flap Repair for Coarctation of the Aorta**
*Cassey Noh, BS RVT RDMS*

Introduction/Patient Description
This case study describes rarely reported extracranial hemodynamics of a patient after the left subclavian flap repair for coarctation of the aorta. The patient is a 34-year old female with the history of coarctation of the aorta, a subclavian flap repair, Turner syndrome, systemic hypertension, severe pulmonary hypertension, aortic and mitral valve diseases, a cerebrovascular accident and congestive heart failure.

Methods
Carotid duplex ultrasound was performed together with cine-loop B-mode imaging color and spectral Doppler using a linear 9-5 MHz transducer (Toshiba).

Results
Ultrasound imaging revealed the absence of the origin of the left subclavian artery while revealing antegrade flow in the left vertebral artery. It also
revealed a triphasic waveform resembling the lower extremity peripheral vascular flow in carotid and vertebral arteries.

Conclusion/Discussion
Carotid duplex is a fast and effective way to document the patency of the extracranial system in a majority of cases, but the evaluation of the waveforms in carotid system can provide an important clinical information also. In this case study, the triphasic waveforms in the carotid and vertebral arteries correlate with a severe case of congestive heart failure. The antegrade flow in the left vertebral artery in the absence of the left subclavian artery reveals that this is not a subclavian steal case. This case study is a rarely reported extracranial system of a patient status post a subclavian flap repair in which a portion, if not all, of the subclavian artery has been used as a flap to expand the area of narrowing of the aorta.

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Nussbaumer Aneurysm Dilation Ratio (NADR): An Improved Method For Determining The Prognosis of Abdominal Aortic Aneurysms
Karen Nussbaumer, RDMS RVT

Introduction
When evaluating the risk of AAA rupture, a measurement of the maximal diameter of the aneurysm is taken into consideration. The purpose of this presentation is to emphasize that the aneurysm diameter alone does not provide adequate information about the risk of aneurismal rupture because the native aorta of each individual varies in size. The proposed Nussbaumer Aneurysm Dilation Ratio (NADR) not only includes the measurement of the maximal diameter of the aneurysm, but also the measurement of the diameter of the native, uninvolved aorta, more accurately assessing the prognosis of AAAs.

Methods
Women typically have smaller AAAs than men, yet the rate of rupture is up to five times greater in women than in men. This increased rate of rupture is perhaps due to the fact that the aortic dilation may actually be much greater in many females when compared to some males who have the same diameter
AAA, but have a smaller native aorta. The ratio of 5:2 (average diameter indicated for AAA surgical repair: average mid aorta diameter) is considered for the baseline NADR ratio factor. It is predicted that a NADR of 2.5 or greater will correlate with an increased rate of rupture of AAAs.

A prospective study on newly diagnosed AAA patients as well as a retrospective study on previously diagnosed AAA patients is underway.

Results
Smaller aneurysms, that would have previously been monitored, may now be considered for surgical repair.

Conclusion/Discussion
The Nussbaumer Aneurysm Dilation Ratio (NADR) is a more precise method of evaluating abdominal aortic aneurysms and determining the prognosis of AAA rupture than the current diagnostic diameter criteria.

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Incorporation of Nerve Imaging During the Venous Insufficiency Examination
R. Jeanne Patton, RVT

Introduction/Patient Description
The identification of the sural nerve during in the initial venous insufficiency work-up can reduce post-operative complications.

Methods
Duplex imaging utilizing a high frequency 10 Mhz linear probe provides concise anatomical information pertaining to the pathway of the sural nerve. The sural nerve follows the path of the lesser saphenous and in the mid to upper calf region will be in the immediate proximity of the lesser saphenous vein. The identification of the sural nerve can assist with catheter placement for the ablation of the lesser saphenous vein.
Results
In 100 limbs examined the sural nerve crosses the lesser saphenous vein in a 96% of the population examined. Identification of the sural nerve is critical to the success of the lesser saphenous ablation. Depending upon o the insertion point of the cather thermal damage to the sural nerve can result. Recovery of a nerve injury is a slow prolonged process with recovery occuring at the rate of 1 millimeter/year.

Conclusion/Discussion
Modification of the lesser saphenous access site can reduce and potentially eliminate post-operative nerve complications.

Diagnosis of Aortic-Enteric Fistula
R. Jeanne Patton, RVT

Introduction/Patient Description
A 70 year old male presented to the emergency room with complaints of fever, tarry stools and severe abdominal pain. The patient had a past medical history of abdominal aortic aneurysm with EVAR approximately 10 years ago.

Methods
The patient underwent a series of tests of which included a duplex of the abdominal aorta. Examination of the abdominal aorta was performed using a 3.5 Mhz curved array probe using aortic protocol.

Results
Duplex imaging demonstrated a significant increase in aneurysmal sac dimensions as compared to previous ultrasound. There was a significant outpouching of the aneurysmal sac with changes to the aortic wall. The patient was then referred to CT for correlation. CT findings correlated with ultrasound findings. The out pouching of the aortic sac was identified as a communication between small intestine and aorta. The patient was taken to OR for open repair of aortic-enteric fistula.

Conclusion/Discussion
Aortic-enteric fistula is a rare long term complication associated with
endovascular repair of the aorta (EVAR). Duplex imaging provides an excellent diagnostic tool for monitoring of EVAR's and their potential complications even though CT remains the gold standard for correlation.

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Defining Carotid Artery Stenosis with DEFINITY®
Paige Rowland

Introduction/Patient Description
This case study will discuss the role of DEFINITY®, a contrast agent, to improve suboptimal 2D gray scale carotid artery imaging and incomplete Doppler envelope signals, thereby resulting in a change of patient care.

Methods
Prior carotid Doppler velocities and images without DEFINITY® were compared to the enhanced (post) DEFINITY® study for improved vessel clarity and enhanced Doppler signal for accurate velocities measurements.

Results
The previous carotid Doppler exam (pre- DEFINITY®) demonstrated velocities consistent with moderate 50-69% stenosis of the right internal carotid artery (ICA). The Doppler recorded peak systolic velocity (PSV) of 201 cm/sec and end diastolic velocity (EDV) of 64 cm/sec. However, the enhanced (post) DEFINITY® velocities recorded a peak systolic velocity (PSV) of 285 cm/s and end diastolic velocity (EDV) of 60.9 cm/sec. The final diagnosis of severe stenosis ≥70% was reported. Additionally the previous pre-DEFINITY® 2D gray scale images of the left internal carotid artery (ICA) were suboptimal with little to no visualization of the occluded arterial plaque. The enhanced 2D gray scale (post) DEFINITY® images revealed visualization of the left internal carotid artery (ICA) plaque morphology with a final definitive diagnosis of occluded left internal carotid artery (ICA).

Conclusion/Discussion
The enhanced (post) DEFINITY® carotid artery images clarified the 2D grayscale plaque and defined the Doppler peak systolic and end diastolic velocities thereby resulting in a change of patient care.
The Overlooked Pseudoaneurysm
Krystal Samulak, RVS

Introduction/Patient Description
A 74 year old female patient presented to our Diagnostic Vascular Lab initially for a Right Lower Extremity Venous Duplex exam to rule out Deep Venous Thrombosis. The patient had a history of a right groin hematoma that presented with worsening swelling, redness and possible infection that had been unremitting for more than six months. A preceding ultrasound was performed by a general ultrasound lab a few days prior to our vascular study, showing evidence of a suggested hematoma without any vascularization.

Methods
A Toshiba Aplio Duplex system was used with a 3.5 curved probe to evaluate the patient's right lower extremity starting in the groin per protocol for deep venous thrombosis exclusion.

Results
While imaging the right groin area a perceptible and significantly large mass was noted and measured. Upon further investigation and alternative technique, noticeable Color Doppler flow was obtained deeper into the measured structure. A Doppler sample was then acquired and displayed a classic to-fro waveform characteristic suggesting the possibility of an active pseudoaneurysm. After detailed conversation with the patient and medical record search it was discovered that there was a cardiac catheterization performed using the right groin for access approximately one year prior. The pseudoaneurysm connection was determined to originate from the Proximal Superficial Femoral Artery.

Conclusion/Discussion
The patient visited our emergency room for further Vascular Surgery consultation. A CT scan was ordered through the radiology department and validated the Vascular ultrasound findings explicitly. The patient soon underwent surgery to enter and evacuate the hematoma, where a
pseudoaneurysm was confirmed and repaired. The patient was re-evaluated by the initial sonographers during her follow up appointment with the vascular surgeon showing no evidence of pseudoaneurysm and minimal scar tissue from the removed mass. The symptoms of pain, swelling and redness were resolved according to the patient, sustaining a successful outcome.

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Sono Guided Thrombin Injection for Iatrogenic Popliteal Artery Pseudoaneurysm

Shoaib Shafique, MD RVT

Introduction/Patient Description
Orthopedic procedures are occasional cause of vascular injuries. Mostly these are treated by open repair. Stent placement is always a concern across joints as it can lead to stent fracture and subsequent vessel thrombosis. We describe a case of sono guided thrombin injection for treatment of popliteal artery pseudoaneurysm.

Methods
74 year old female was referred after recent knee surgery for leg swelling. Venous duplex ruled out DVT but pseudoaneurysm of popliteal artery was noted. This aneurysm appeared to have a suitable neck for thrombin injection. We approached this with sono guidance and needle was successfully placed and thrombin injection was given. Pseudoaneurysm was thrombosed successfully.

Results
Patient was followed up with serial duplex scans. Follow up at three months after procedure showed complete resolution of pseudoaneurysm/hematoma.

Conclusion/Discussion
Iatrogenic pseudoaneurysm of popliteal artery can be successfully treated with sono guided thrombin injection and may be preferred method of treatment since it avoids placing a stent across joint
A Relationship Study of Carotid Lumen Diameter and Coronary Vessel Area Using Intravascular Ultrasound

Jasjit S. Suri, MS PhD MBA

Introduction
Carotid ultrasound (US) imaging offers several advantages such as: non-invasive, economic, provides information for computing young's modulus of elasticity and has shown to be a sub-clinical atherosclerotic bio marker for cardiovascular risk. The objective of this study is to measure the correlation between automatically measured carotid lumen diameter (LD) and the coronary vessel area (VA) using intra vascular ultrasound (IVUS).

Methods
LD was measured automatically from US scans using an advanced edge detection based system. The system uses spatial transformation method which improves the LD measurement in curved vessels leading to high accuracy. For the same patients, the coronary vessel area was measured by an expert through iMAP software (Boston Scientific®) using IVUS. The coefficient of correlation (CC) between carotid LD and coronary VA was calculated.

Results
One hundred and sixty six patients' left/right common carotid artery (332 carotid images) B-mode ultrasound images retrospectively analyzed (IRB approved, Toho University, Japan) with mean age 69±15.9 years. Mean HbA1c, LDL, HDL and T-cholesterol of patients were 5.8±1.0, 99.9±1.3, 50.6±15.5 and 174.2±36.6 mg/dl, respectively. The CC between carotid Auto LD and coronary VA was -0.13 (p < 0.1008), while the CC between the two manual tracings and coronary VA were 0.13 (p < 0.0937) and 0.11 (p < 0.2011), respectively. We validated the automated carotid LD measurements against the two manual tracings. The carotid LD errors corresponding to the two expert observers were: 0.25±0.23 mm and 0.23±0.23 mm for LD, respectively. The inter-observer CC between the two manual tracers for carotid LD were 0.98 (p < 0.0001) and 0.99 (p < 0.0001), respectively. The precision of merit (PoM) between the auto and two manual expert tracings were 97.7 % and 98.7 %, respectively.
Conclusion/Discussion
The mild inverse correlation observed between the automated carotid lumen diameter and coronary vessel area conveys its potential to use it as a biomarker for CAD risk prediction.

May-Thurner Syndrome
Carolyn Vo

Introduction/Patient Description
An ultrasound of the lower extremities was ordered for a 29-year-old female patient to check for chronic venous insufficiency bilaterally. The patient presented to the lab with left leg swelling. She complains of pain in the entire left leg for the last two years. Upon physical examination, the left leg was visually bigger than the right leg. The patient noted that her ankle swelling worsens throughout the day. Patient has no history of DVT.

Methods
Her lower extremity veins were evaluated using an L9-3 MHz linear array transducer. Per the protocol, the patient was positioned in extreme reverse Trendelenburg. Multiple images of the deep and superficial systems were obtained using B-mode, color, and Doppler to evaluate each leg.

Results
The deep veins and superficial veins were examined, and revealed no significant reflux or thrombus. However, Doppler of the left common femoral vein and left external iliac vein revealed a continuous waveform. Color was used to visualize the common iliac vein and common iliac artery. The left common iliac vein displayed a narrowing with color mosaic. Velocities at stenosis site more than doubled compared to pre stenosis site. Significant stenosis of the left common iliac vein suggested extrinsic compression by the right common iliac artery.

Conclusion/Discussion
May Thurner Syndrome is an anatomical variation in which the right common iliac artery compresses the left common iliac vein. It occurs in 2-5% of
patients who are evaluated for lower extremity vein complications. It is more common in females than males and may be worsened by pregnancy, contraceptives and clotting disorders. The patient is planning to become pregnant within the next few years; treatment for her stenosis should be considered a priority. Further testing is needed to confirm May Thurner syndrome. An MR scan of the abdomen and pelvis was ordered for the patient.

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Ultrasound Findings in Patients with Takayasu’s Disease
Douglas Wooster, MD RVT

Introduction/Patient Description
Introduction: Takayasu’s disease (TD) is a rare disease of the aorta and its major branches identified by clinical presentation and demonstrated by ultrasound, CT or MR. This report aims to describe the ultrasound findings in TD.

Methods
Methods: Three patients with TD were identified from clinical records. All available ultrasound images were reviewed. The clinical and ultrasound findings were described and documented. An electronic literature review was used to develop the discussion. Colleagues were surveyed to identify others’ experience with TD.

Results
Results: All patients had a history of suggestive of TD: 2/3 absent arm pulses, arm pressure differential of > 40 mmHG and carotid bruits. Two had ‘active’ disease with unusual findings: 1 ascending aortic dilation leading to valve replacement and 1 mid-aortic syndrome. One had arch disease with ‘burned out’ disease. All underwent carotid, upper extremity, aortic and lower extremity arterial duplex. Ultrasounds showed carotid stenosis (1) or occlusion (1) with diffuse wall thickening. The subclavian arteries were occluded; the arm arteries were patent with attenuated flow in all patients (3). The abdominal aorta showed no aneurysm (3) or mid-aortic stenosis (1).
The lower extremity arteries were patent with diffuse wall thickening (2). Images representing the pathology and the major involved arteries were identified. Key articles were collated. Common symptoms and findings include bruit, claudication and absent pulses (60-80%). Uncommon symptoms include carotidynia (33%) and mid-aortic syndrome (17%). The diagnosis is made by recognizing major and minor criteria. The colleagues’ survey showed most had seen none or < 5 patients with TD.

Conclusion/Discussion
Conclusion: Ultrasound in TD can demonstrate diffuse, non-atherosclerotic stenotic disease, involving the aorta and its major branches.

Infrapopliteal and Cerebral Mycotic Aneurysms
Leslie Wormely, AS AA RVT

Introduction/Patient Description
Mycotic aneurysms resulting from endocarditis are uncommon, and patients having aneurysms in multiple locations rare. We report on a case of a patient having both infrapopliteal and cerebral mycotic aneurysms as a result of endocarditis.

Methods
Retrospective review of the medical record was performed.

Results
A venous duplex incidentally demonstrated an infrapopliteal aneurysm of the right tibio-peroneal trunk. CT demonstrated two separate aneurysms one at the origin of the anterior tibial artery and one involving the peroneal artery. A transesophageal echocardiogram was done and identified a vegetation on the prosthetic aortic valve and the patient underwent surgery for replacement of the prosthetic aortic valve. The patient suffered a CVA post operatively and subsequently had two cerebral mycotic aneurysms identified and treated.

Conclusion/Discussion
Mycotic peripheral arterial aneurysms are infrequent. Such aneurysms present with either local inflammatory symptoms, appropriate symptoms of
occlusion of that vascular territory or with distal emboli. The first principal of successful management is to treat the source of the infectious emboli with intravenous antibiotics and valvular replacement if appropriate. Early clinical diagnosis of infected aneurysms is challenging. Doppler ultrasonography allows noninvasive assessment for infected aneurysms in the peripheral arteries. Imaging features of infected aneurysms include a lobulated vascular mass, an indistinct irregular arterial wall, perianeurysmal edema, and a perianeurysmal soft-tissue mass. Perianeurysmal gas, aneurysmal thrombosis, aneurysmal wall calcification and disrupted arterial calcification at the site of the infected aneurysm are other findings. Familiarity with the imaging appearances of infected aneurysms helps with early diagnosis and permits timely treatment.