Below the Knee Angiography

Peripheral arterial disease (PAD) is a prevalent disease estimated to be present in 12 to 20% of Americans age 65 or older. Although intermittent claudication is the most common symptom, a subgroup of patients may present with Critical Limb Ischemia (CLI), which is described as patients presenting with rest pain, ischemic skin lesions such as ulcer or gangrene. Most common risk factors include smoking and diabetes. The underlying process in CLI is progressive atherosclerosis which causes severe narrowing or occlusion of the arteries, reducing blood flow and perfusion to the distal circulation and the foot. This condition is often complicated by thrombosis which further compromised arterial flow to the distal extremity. History and physical exam typically shows pain occurring at night time and localized to the distal part of the foot. Patient obtains partial relief by hanging the affected limb down over the side of the bed. The skin feels cool and may show cyanosis. Pedal pulses are typically not palpable. Ulcer or gangrene may be present in the foot depending on the duration of ischemia. Non-invasive arterial imaging shows ABI (ankle-brachial index) of less than 0.5 with CTA, Duplex or MRA showing multi-segmental arterial stenosis and/or occlusion. Because detailed anatomy of the arterial tree is required to plan intervention, angiography remains the imaging of choice in most cases of CLI. Selective catheterization and angiography is the corner stone of endovascular therapy to obtain limb salvage in these patients. The 130 cm or 150 cm Berenstein Mariner™ catheter system with a 4 Fr. radio-opaque tip allows selective catheterization of the branch vessels involving femoral, popliteal and tibial arteries. The low profile angled tip combined with a long braided shaft allows easy cannulation of the tibial arteries from a contralateral approach.

(Figure 1) Occlusion of the left posterior tibial and segmental occlusion of the peroneal and anterior tibial arteries.

(Figure 2) 150 cm Berenstein Mariner located at the left anterior tibial artery.
CASE PRESENTATION: Patient is a 64 yr old male with history of renal failure, diabetes, hypertension, coronary artery disease. He presented with ulceration and gangrene of the left toes. ABI was .3 and duplex scan showed patent superficial and popliteal artery with significant disease involving tibial arteries. The posterior tibial artery was occluded. (Figure 1) The peroneal and anterior tibial arteries had segments of occlusion. A 4 Fr., 150 cm Berenstein Mariner catheter and guidewire were used to access both the peroneal and anterior tibial arteries. (Figures 2 & 3) This was followed by angioplasty of both arteries utilizing a long 2.5 mm balloon. Final angiographic picture showed patency of both vessels down to the foot.

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(Figure 3) 150 cm Berenstein Mariner and guidewire access to the left anterior tibial artery.

Mariner

The Mariner™ Hydrophilic-Coated Angiographic Catheter is designed to deliver contrast media to areas of vascular anatomy. The Mariner angiographic catheter features AngioDynamics® patented SoftVu® technology—an atraumatic SUPER-RADIOPAQUE™ tip, which is highly visible under fluoroscopy—combined with Duration™ coating technology. The Duration hydrophilic coating technology significantly reduces catheter surface friction, permitting smoother navigation through challenging vasculature with optimal handling and control.

The Mariner catheter is available in:
• Over 50 shapes of flush and selective catheters
• Lengths ranging from 40cm to 150cm
• 4Fr, 5Fr, and 6Fr
• .035” and .038” diameters
• Comprehensive specials program is available