Many patients with peripheral arterial disease (PAD) also have atherosclerotic disease of the lower extremity. However, PAD of the upper extremity is not uncommon especially in patients with history of multiple risk factors. Although proximal disease is more common than distal disease, patients may present with symptoms secondary to distal upper extremity occlusive disease. Signs and symptoms of upper extremity atherosclerosis depend on the severity of the disease. The patient may be asymptomatic or have symptoms of claudication which can cause upper extremity pain with exertion. Rest pain, ulceration and gangrene may result from severe arterial insufficiency to the hand. A number of other conditions may affect the arteries of the upper extremity, including emboli, thrombosis, arterial inflammation, trauma and occupational disorders, vasospasm, thoracic outlet syndrome, arteriovenous malformations, fistulas and vascular tumors.

Diagnosis is based on obtaining a complete history and physical. In many patients, specific vascular testing is necessary to make a diagnosis of peripheral arterial disease. Initial non-invasive vascular testing includes upper extremity arterial plethysmography and segmental systolic pressure with digital tracings, thoracic outlet maneuvers, CTA, MRI and possible ice immersion. Angiography plays a critical role in the diagnosis and management of certain arterial lesions involving the upper extremity. Selective angiography provides a detailed image of the upper extremity arterial tree leading to an endovascular intervention. Having an appropriate low profile, braided, radio-opaque tip catheter allows atraumatic selective cannulation of the vessel with detailed imaging of the appropriate vascular bed.

CASE PRESENTATION

This is a case of a 39 year old male who is a construction worker with history of smoking. Patient presented with pain involving the right hand and mild discoloration involving the tip of the 4th and 5th digit. Patient is a right hand dominant and has no other significant past medical history. Arterial doppler study showed decrease in digital tracing and ulnar index. Patient underwent angiography to evaluate the abnormality. This included arch and selective right upper extremity arteriograms (Figures 1 & 2) which showed occlusion of the ulnar artery and severe digital occlusive disease (Figure 3). A marked pigtail catheter was used for the arch arteriogram and a 150 cm 4F Bernstein Mariner™ catheter was used for selective arteriogram of the right upper extremity.

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The Mariner® hydrophilic-coated angiographic catheter is designed to deliver contrast media to areas of vascular anatomy. The Mariner angiographic catheter features AngioDynamics’ patented Soft-Vu® catheter 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:
- More than 50 shapes of flush and selective catheters
- Lengths ranging from 40 cm to 150 cm
- 4F, 5F and 6F
- .035” and .038” diameters
- Comprehensive specials program is available