Hypotenar Hammer Syndrome

FINDINGS: Digital subtraction angiography reveals a focal dilatation of the distal ulnar artery consistent with a pseudoaneurysm. There are multiple occlusions of 2nd, 4th and 5th digital arteries with poor perfusion of the digits distally likely from microemboli. This angiogram demonstrates variant anatomy of the palmar arches and should be compared to a normal. Variations in these arteries are common.
Discussion: The superficial ulnar artery is unprotected as passes superficial to the hook of the hamate making it vulnerable to injury in the hypothenar eminence.

Hypothenar Hammer Syndrome occurs in persons who experience repetitive trauma to the hypothenar portion of the hand, often as a result of using the hand to strike hard objects. The syndrome has been described in physical laborers, martial artists, golfers, badminton players and users of vibrating machinery such as jackhammers.

Repetitive minor trauma results in pseudoaneurysm formation with subsequent thrombosis. Distal emboli arise from the thrombosed pseudoaneurysm and cause minor occlusion of the terminal digital arteries. Symptoms are due to irritation of the hypothenar eminence with ischemia and vasospasm in 1 or more digits sparing the first digit. It is theorized that more acute presentations can occur when a minor trauma dislodges a shower of emboli and causes multiple digital artery occlusions leading to finger ischemia, pain and pallor.

A high clinical suspicion leads to angiography in the less acute presentations of cold intolerance and paraesthesias. Angiography is diagnostic. Newer modalities such as MRA and CTA may also be used to assess the arteries of the hand, while excluding other conditions such as masses that might present similarly.

Treatment: Surgical treatment is definitive, some of the articles described anti-coagulation and anti-platelet therapy. Stents are unlikely to treat this condition due to compressibility at this site in the hand and the very high likelihood of stent thrombosis. Most sources advocated surgical treatment.

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**Case report: Hypothenar hammer syndrome with embolic occlusion of digital arteries**

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