An uncommon treatment for an uncommon entity: Reconstruction of traumatic pseudoaneurysms of the superficial palmar arch. Literature review and report of two unique cases.

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Introduction

Traumatic pseudoaneurysms of the superficial palmar arch (SPA) are a rare pathology considering the frequency of injuries to the hand.

Materials and Methods

A systematic literature review was conducted in Medline (1943 – 6/15/2012) to identify papers describing traumatic pseudoaneurysms of the hand. Identified papers were individually searched to identify additional references.

Results

Literature review. In total, 37 papers describing 42 pseudoaneurysms of the hand are published in the literature. Only 9 case reports of SPA pseudoaneurysm are described (see table) with the majority of cases due to penetrating trauma; one case was after endoscopic carpal tunnel release. All cases presented as a painful mass identified by the patient between 4 days and 5 months after injury. Two cases were treated by reconstruction with end-to-end anastomosis after pseudoaneurysm excision. However, the majority of cases underwent simple excision and ligation.

Case 1

A 31 year-old RHD chef presented with pulsatile mass 3 weeks after a stab wound to the right palm. MRA demonstrated a 3 cm x 3 cm pseudoaneurysm off the SPA near the take-off of the third common digital artery.

Pre-Op appearance

MRA demonstrating pseudoaneurysm

Intra-op, the pseudoaneurysm neck was isolated to a small segment between the common digital arteries. The segment was excised, preserving the take-off of the digital vessels, and an end-to-end microvascular reconstruction was performed.

Case 2

A 35 year-old RHD physician presented with a pulsatile mass in his right hand several weeks after lifting weights. MRA demonstrated a 1.3 cm x 1 cm pseudoaneurysm of the distal ulnar artery at the SPA. Intra-op, the pseudoaneurysm was found to involve the junction of the superficial arch and common digital artery to the small finger. The pseudoaneurysm was excised. A primary end-to-end anastomosis of the ulnar artery to superficial palmar arch and an end-to-side anastomosis of the common digital to proximal ulnar artery were then performed.

Conclusions

Pseudoaneurysms of the SPA are a rare entity. Most centers have limited experience treating them. This diagnosis should be included in the differential of a painful palmar mass with history of penetrating or blunt trauma, as indicated by our experience. While the majority of surgeons choose to forego reconstruction after pseudoaneurysm excision, microvascular reconstruction should be considered the optimal treatment for pseudoaneurysms given the potential long-term consequences of relative hypoperfusion (e.g. cold intolerance).

References