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Vascular Malformation of the Hand: a Challenge of Management

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Short Report

A vascular malformation is a collection of abnormal vessels forming a lesion that is present at birth and may grow in the adulthood [1]. They can develop in any part of the body, including the hand, which is the second most common part of the body, next to the head and neck [2].

Vascular malformations may involve any anatomic structure of the hand (skin, bone, tendon, muscle...), can cause more disability, pain, and discomfort and constitute a significant challenge of management [3].

CT-scan or MRI are warranted for diagnosis and outline the extent of surrounding tissue involvement.

Treatment of the arteriovenous malformation includes conservative treatment, selective embolization/sclerotherapy, partial excision, and radical excision [4].

Radical excision is generally difficult, because the lesion is located in a small space with a high risk of failure and neurovascular injury [5].

Sclerotherapy combined with partial excision yield good results but they are prone to recurrence as well.

We report the case of a 21-year-old man, left hand dominant, presented with a painless swelling of the left hand. There was no history of local trauma or neurological symptoms, including paresthesia or motor dysfunction. On physical examination there is a non-tender subcutaneous movable soft mass in the left hand, Ultrasonography revealed non-specific hypoechogenic regions around the flexor tendons, median nerve and its branches. Computed tomography showed a deep heterogeneous formation in the palm of 3x2.5cm of diameter, compatible with arterial-venous malformation without osseous abnormalities (figure 1).



Figure 1.

Sclerotherapy was not performed because our patient was

financially incapacitated. Surgical exploration under upper extremity with regional anesthesia and tourniquet control, revealed an extensive vascular malformation of the mass, which appeared to infiltrate and to invaginate surrounding soft-tissue structures (median nerve and its branches) making its limits

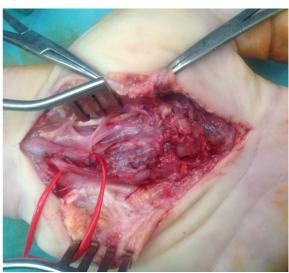


Figure 2.

difficult to delineate (figure 2).

The lesion was dissected meticulously from the involved structures with carpal tunnel release ligation / partial excision of the superficial palmar arterial-venous arch and rigorous hemostasis. Histological examination confirmed the diagnosis of arteriovenous malformation and excluded malignancy. The post-operative course was uneventful. There was no recurrence at six months of follow-up. Regular long-term Clinical follow-up is crucial, due to the inherent risk of recurrence.

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