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Case Report

A Case Report of AV Malformation Involving Flexor Carpi Radialis

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Abstract: Typical venous malformations are easily diagnosed by skin colour changes, focal edema or pain. Venous malformation in the skeletal muscles, however, has the potential to be missed because their involved sites are invisible and the disease is rare. In addition, the symptoms of intramuscular venous malformation overlaps with myofascial pain syndrome or muscle strain. Most venous malformation cases have reported a focal lesion involved in one or adjacent muscles. In contrast, we have experienced a case of intramuscular venous malformation that involved whole of flexor carpi radialis muscle.
Keywords: Venous malformation, skeletal muscles, myofascial pain, focal lesion

INTRODUCTION

Vascular malformations are congenital lesions due to abnormal embryonic development of vascular structures and they are subdivided into arteriovenous, capillary, venous, lymphatic and combined malformations [1]. Among them, venous malformations are the most common form and they are mostly in the skin and subcutaneous tissues [2,3]. In this report, with a review of literature, we describe a patient with extensive intramuscular venous malformation which involves whole of flexor carpi radialis muscle.

CASE REPORT

A previously healthy 27 -year-old man was presented with a 2 months history of swelling and pain in the left forearm. The symptoms lasted while stretching and gradually improved when she rested. On physical examination, there was full strength in all limbs and normal tone. Sensation was also intact. Reflexes were normal throughout, and there were no pathological reflexes. There was significant tenderness over a wide area over left forearm. The overlying skin appeared normal without traumatic injury; erythema or warmth. swelling was not mobile with trans illumination negative.

Hb-12.4g%, platelet count 2.1lakh/cu.mm. There was a mild elevation of the erythrocyte sedimentation rate (ESR) at 33 mm/hr (normal range 0-20). Ultrasonography was obtained to verify the state of the muscles and vessels on the forearm and it demonstrated vascular malformation. FNAC of swelling showed features of hemangioma. Angiography and venography showed multiple dilated venous malformations with connection to the normal veins and to the arterial system.

Excision of whole of flexor carpi radialis muscle after ligating feeding and draning vessels done with tendon transfer of Palmaris longus to FCR.

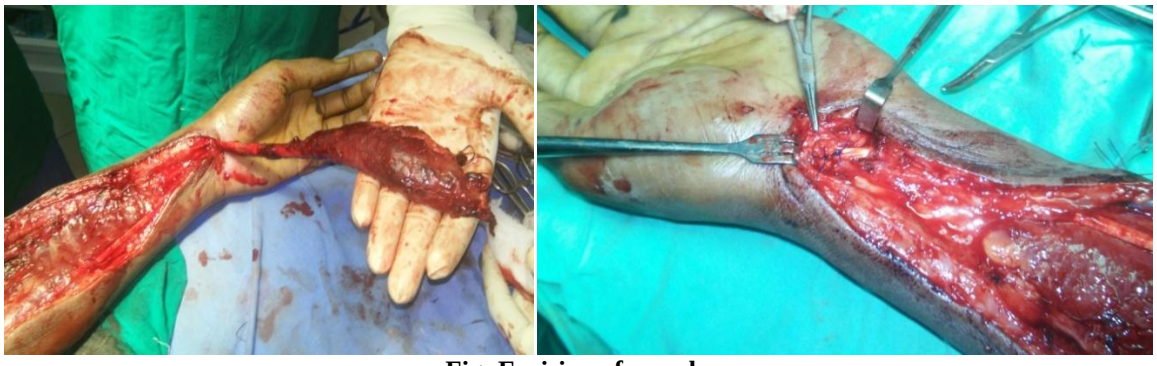

Fig- Excision of muscle

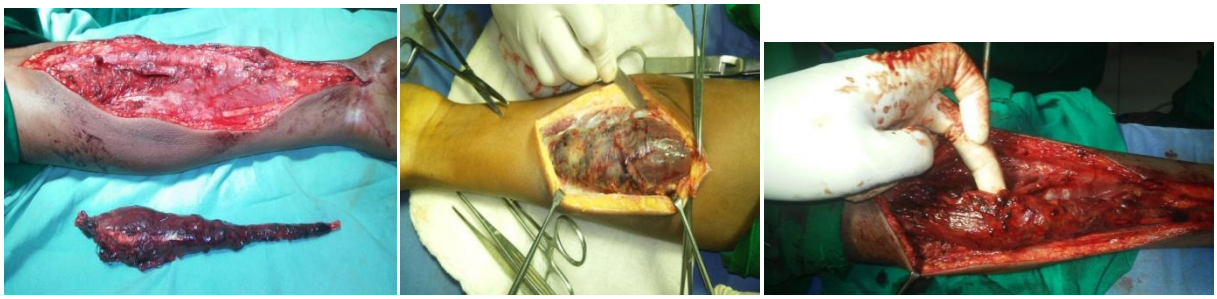

Fig- Excision of muscle

DISCUSSION

Intramuscular venous malformations are rare entities. They occurred most often in the head and neck and extremities but are relatively rare in the trunk and well localized to a single muscle or adjacent muscle groups [4]. Our patient presented with arterio venous malformation confined to left forearm which is consistent with similar findings in previous reports. Because venous malformations are lesions due to abnormal embryonic development, it is assumed that localized venous malformations result from insults of the specific neurovascular bundles during development, which is the origin of some localized vessels and muscles.Typical subcutaneous venous malformations are grossly detectable and easily diagnosed by color changing of the skin, asymmetry of muscles, focal edema or post-exercise pain [3,4]. According to a study by Hein *et al*., [4] two-thirds of intramuscular venous malformation were also noted at birth and the remainder manifested in childhood and adolescence. However, it has the potential to be missed because they are frequently asymptomatic and their involved sites are invisible, especially during their early stages. In our patient, diagnosis of venous malformation was delayed until the age of 27 years, because the pain and pressure of the muscles were not triggered by movements in his daily life, and first appeared when she started playing. In addition, the symptoms of intramuscular venous malformation overlapped with myofascial pain syndrome or muscle strain. For this reason, a misdiagnosis was made and complications such as vessel injuries, muscle ischemia and hematoma developed after faulty trigger-point injections and so on. The superficial vascular malformations were thoroughly examined by ultrasound, with gray scale studies defining the extent and spectral and color doppler interrogation used to identify the flow characteristics [5]. Although the patient's venous malformation of the extremity was identified by musculoskeletal ultrasonography, an MRI is the most common and accurate tool of the early diagnosis of intramuscular venous malformation. The MRI demonstrated detailed distribution of the abnormal veins [5]. In our case, with the suspected diagnosis of venous malformation based on presentations of the ultrasonography, an angiography and venography of the extremity were performed, which revealed extensive dilatation of the veins, compatible with venous malformation. The initial management of venous malformations is conservative [6]. Sclerotherapy, laser therapy or surgical resection is considered after low-dose aspirin therapy, in combination with compressive garments [6]. Proper methods of treatment should be decided on after a full consideration of the degree of disabilities in daily living, injuries of adjacent tissues and cosmetic concerns. Sclerotherapy is the nonsurgical intervention for focal, well-marginated venous malformations. This approach seems to be inappropriate for larger lesions as in our case and can produce inflammatory fibrosis and a permanent scar when the chemical agent directly applied to infiltrated muscles [7]. Recurrence, focal fibrosis or contracture following surgery is also more common with diffuse venous malformations.

Our patient had minor symptoms and no disabilities in daily living for her lesion and compressive garments and low-dose aspirin were prescribed for further managements. Resection of sclerotherapy will be considered if the symptoms worsen or any complications develop later.

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