

Vascular malformation surgery: Case report

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Abstract

A vascular malformation is an abnormal development of blood vessels. They might be found in the large arteries and veins, in smaller vessels called arterioles and venules, in microscopic capillaries, and/or in the lymphatic channels that carry lymphatic fluid and white blood cells outside of the arteries and veins. Treatment options can range from addressing minor (cosmetic) concerns to providing life-saving care for critical conditions. They may include one or more of the following approaches: Catheter-based techniques such as embolization; sclerotherapy, Laser therapy, Simple observation with regular follow-up visits, Surgery Herein We report the case of a 55-year-old man with a congenital vascular malformation treated surgically.

Keywords: Congenital; Vascular malformations (AVM); Magnetic resonance imaging (MRI); Blood vessels

1. Introduction

Vascular malformations are a type of birthmark or a growth, often present at birth and composed of blood vessels that can cause functional or cosmetic problems. Congenital or acquired blood vessel abnormalities can involve arteries, veins, capillaries, lymphatics, and combinations of these blood vessels. While many of these blood vessel malformations are apparent at birth, others do not show up until later, during the childhood and teenage years.

There are several different types of vascular malformations and they are named according to which type of blood vessel is predominantly affected. The most common blood vessel abnormalities that impact children in the first year of life are hemangiomas, the majority of which will improve throughout childhood.

We report the case of a 55-year-old man patient with Vascular malformations without any notion of trauma.

2. Case presentation

59-year-old man, chronic smoker for 25 years. Admitted to our hospital for diagnosis of a mass on the inner thigh.

The history of the disease goes back to birth, when the patient presented with a mass 3 cm in diameter, progressively evolving. Six years ago, the mass rapidly increased in volume and fistulated in the skin, becoming bothersome due to its size and bleeding, which prompted the patient to seek medical attention.

Examination of the left lower limb revealed a mass (Figure 2) in the path of the long saphenous vein in the lower 1/3 of the thigh, surrounded by varicose dilatation, especially downstream of the mass. The mass was fistulized in the skin, not pulsating, not thrilling, painless and without inflammatory signs. The rest of the limb examination was normal, particularly the vascular examination.

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The patient benefited from an angio-MRI (Figure 1) showing an arteriovenous malformation measuring 60mm×50mm, fed by a branch of the superficial femoral artery and draining into a tributary of the long saphenous vein, with early opacification of the latter.

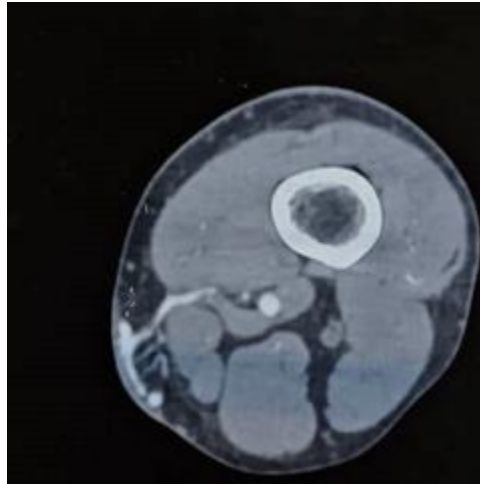


Figure 1 Angio-MRI of the AVM

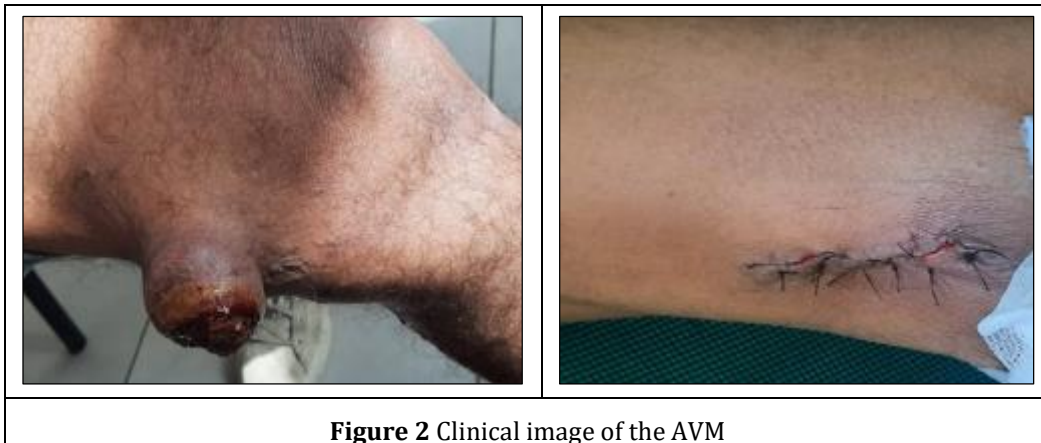


Figure 2 Clinical image of the AVM

The patient was offered surgical treatment. A double incision was made on either side of the AVM, extending slightly beyond it. This allowed dissection and control of the internal saphenous vein and the branch of the superficial femoral artery feeding the AVM. The draining vein and the arterial branch feeding the AVM were then ligated with 7/0 prolene, and the AVM was excised.

The surgical specimen was sent to the laboratory for anatomopathological study, which confirmed the diagnosis of an arterio-venous malformation. (Figure 2)

The postoperative outcomes were uneventful. The result at 2 years was satisfactory and stable.

3. Discussion

Vascular malformations are grouped together based upon their common embryological origin of having a single endothelial cell lining.(1) Vascular malformations are thought to result from developmental errors during embryogenesis, such as abnormal signaling processes that control apoptosis, maturation, and growth of vascular cells. These errors lead to the persistence of vascular plexus cells with a certain degree of differentiation.(2) There are four major categories of vascular malformations based on their flow characteristics: slow-flow (capillary malformation, venous malformation, lymphatic malformation) and fast-flow (arteriovenous malformation). These lesions often have

components of multiple malformations, such as a mixed lymphatico-venous malformation, further adding to the confusion with respect to proper nomenclature

As with any medical or surgical anomaly, accurate diagnosis is paramount to successful treatment. With vascular malformations, a thorough history and physical exam will allow the astute physician to make a sound diagnosis for a majority of the clinical cases presented. Additionally, proper imaging modalities such as ultrasound (US) with gray scale, color Doppler and spectral Doppler tracings, or magnetic resonance imaging (MRI) can aid when the diagnosis is in question, as there may be overlap in clinical appearance in these anomalies.(3) These imaging modalities can assist in confirming particular attributes of the lesion, defining anatomic locations/boundaries, and planning potential surgical intervention.

In general, the management of vascular malformation is expectant in nature with both noninvasive and invasive treatment of symptomatic lesions. Lesions located in the head and neck region, however, require special attention as they can cause obstruction of critical structures such as the visual axis or the airway

4. Conclusion

Vascular malformations are a source of great concern and anxiety not only for patients and their families, but also for the treating physicians. Proper identification as well as multidisciplinary approach is paramount for proper treatment. Understanding the clinical aspects, tools available for diagnosis, and options for interventions of each subtype of lesion will enable appropriate care to be provided and results to be maximized.

Compliance with ethical standards

Disclosure of conflict of interest

The authors declare no competing interest.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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