

**CONFUSION BETWEEN VASCULAR MALFORMATIONS
AND HEMANGIOMAS-PRACTICAL ISSUES**Anca Chiriac^{1,2}, Meda Bradeanu³, Piotr Brzezinski⁴¹Department of Dermatology, Nicolina Medical Center, Iasi, Romania²Department of Dermato-Physiology, Apollonia University Iasi, Strada Muzicii nr 2, Iasi-700399, Romania³Department of Neonatology, Obstetrics and Gynecology Hospital Elena Doamna, Iasi, Romania⁴Department of Dermatology, 6th Military Support Unit, Ustka, PolandSource of Support:
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Sir,

A lot of confusion exists in daily practice regarding the terminology of vascular anomaly diagnosed in infants!**Hemangioma is a vascular tumor and it is NOT a vascular malformation!**

Figure 1. Case 1: Ulcerated hemangioma on the scalp in a 2month old female child;
Figure 2. Case 2: Congenital vascular malformation on the face (type capillary malformation);
Figure 3. Case 3: Congenital vascular malformation on the inferior limb (type venous malformation);
Figure 4. Case 4: Small hemangioma on the face in a 4month old female child.

We present 4 cases just to express the importance of the differential diagnosis of these two entities with great impact on clinical practice (Fig. 1 - 4).

In French literature there is the terminology of “angiomes cutanés”(cutaneous angiomas) that includes both hemangiomas and vascular malformations. The persistence of using this medical term creates confusions among physicians of different

specialties and within member of the families.

Also the name “angiome plane” (plane angioma) is still widely used to describe capillary malformations.

It is of great importance to clearly delineate hemangiomas from vascular malformations based on origin, pathogenic mechanisms, clinical aspect, with impact on therapeutic approach, follow-up and evolution (Tabl. I).

Tumors	Vascular malformation
Haemangioma Other tumours	Capillary malformation (CM) Lymphatic malformation (LM) Venous malformation (VM) Arterio-venous malformation (AVM)

Table I. International Society for the Study of Vascular Anomalies. Classification of vascular anomalies, 1996 [1].

For a more clear delineation of hemangiomas and vascular malformations a few practical criteria are summarized in Table II, just to be of great help in front of a vascular anomaly seen in an infant or child.

A few hints are important to sustain the diagnosis of

hemangioma: onset in early neonatal period, more frequent than vascular malformations, most seen in girls, with a “self-limited” evolution, diagnosis based on clinical aspect and spontaneous resolution.

Hemangioma	Vascular malformation
appears in the early neonatal period	presents at birth
incidence of 2-3% in newborns and 10% by the end of first year of life [6]	incidence of 1.2% [7]
sex ratio: female/male is 3-5:1	sex ratio: equal
has a growth cycle with two phases [1]: · rapid growth induced by proliferation · slow regression induced by involution of hemangioma by the age of 5-10 (in great majority of cases) or three phases [4]: · rapid proliferating phase (0-1year) · involuting phase (1-5 years) · involuted phase (5-10 years)	continues to grow at a rate proportional with the growth rate of the body, with no involution
“self-limited“ tumor spontaneous regression can occur with or without sequels: telangiectases, scars, anetoderma or epidermal atrophy, hypopigmentation and/or redundant skin [3]	“self-perpetuating” embryologic tissue with malformed vessels [5] never involutes
is a vascular tumor: endothelial cells proliferation	vascular abnormalities due to defects of embryogenesis (vasculogenesis/angiogenesis) with two subtypes: · extratruncular-the defect appears during earlier stage of embryogenesis (before formation of vascular trunk) · truncular - embryogenetic defect is produced later [2]
the absence of recurrence phenomenon	recurrence can occur in extratruncular forms due to persistence of mesenchymal cells (angioblasts) that can proliferate triggered by trauma, pregnancy, surgical interventions
Duplex sonography and/or MRI in case of deep hemangioma mimicking vascular malformation	Duplex sonography and MRI attest the malformations

Table II. Differences between hemangiomas and vascular malformations [1].

REFERENCES

1. Lee BB, Laredo J. Hemangioma and venous/vascular malformations are different as an apple and an orange! *Acta Phlebol.* 2012;13:1-2
2. Lee BB, Bergan J, Gloviczki P, Laredo J, Loose DA, Mattassi R, et al. Diagnosis and treatment of venous malformations - Consensus Document of the International Union of Phlebology (IUP)-2009. *Int Angiol.* 2009;28:434-51.
3. Zheng JW, Zhang L, Zhou Q, Mai HM, Wang YA, Fan XD, et al. A practical guide to treatment of infantile hemangiomas of the head and neck. *Int J Clin Exp Med.* 2013;6:851-60.
4. Tan ST, Velickovic M, Ruger BM, Davis PF. Cellular and extracellular markers of hemangioma. *Plast Reconstr Surg.* 2000;106:529-38.
5. Mulliken JB, Young AE, eds. *Vascular Birthmarks: Hemangiomas and Malformations.* Philadelphia, PA: WB Saunders, 1988.
6. Lee BB. Venous malformation and haemangioma: differential diagnosis, diagnosis, natural history and consequences. *Phlebology Phlebology.* 2013;28 Suppl 1:176-87.
7. Tasnadi G. Epidemiology and etiology of congenital vascular malformations. *Semin Vasc Surg.* 1993;6:200-3.