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Coexistence of different types of vascular anomalies in the same patient: Case series report

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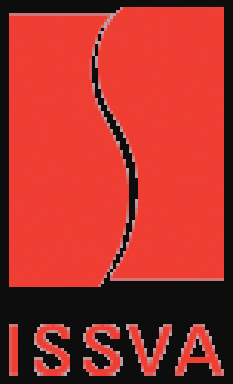

International Society for the Study of Vascular Anomalies classification:

Vascular anomalies

Vascular tumors

- *Infantile Hemangioma* ***IH***
- *Congenital hemangioma*
  - *RICH; NICH*
- Tufted angioma
- Pogenic granuloma

Vascular malformations

- *Capillary malfornation* ***CM***
- *Venous malfornation* ***VM***
- *Lymphatic malfornation* ***LM***
- *Arteriovenosus malformation* ***AVM***

International Society for the Study of Vascular Anomalies classification:

ISSVA

Vascular anomalies

Vascular tumors

Hemangioma

5-10 % newborns

Vascular malformations

1-1,5% population

Vascular anomalies

Vascular tumors

Hemangioma

- occur in infancy and childhood
- girls-boys ratio 3-7:1
- more than 80% involve head and neck

Vascular malformations

- everlasting if not treated
- no sex prevalence
- mostly cutaneous/ subcutaneous vessels

Vascular anomalies

Vascular tumors

Hemangioma

80 to 90% regress spontaneously

Vascular malformations

never regress

Vascular anomalies

Vascular tumors

Hemangioma

Spontaneous involution:

- prolipherating phase
- involuting phase
- post-involuted phase

Vascular malformations

- never prolieferate and never involute
- commensurate growth during childhood

Diagnostic imaging devices and the various vascular anomalies.

	IH	CM	VM	LM	AVM
USG/Doppler	+++	++	++	++	+++
X-Ray	-	-	++	+/-	+
MRI	++	-	+++	+++	++
CT	+	-	+	+	+
Angio-CT	-	-	+	-	++
Biopsy	+	-	+	+	+

Main therapeutic strategies

	Vascular tumors	*Vascular malformations*
Pharmacological therapies (propranolol, GKS, vincristine, bleomycine)	**+++**	**+/-**
Lasers (PDL, Nd:Yag, CO2)	**+**	**CM,VM +++**
Surgical excision	**++**	**++**
Sclerotherapy	**-**	**VM and LM ++**
Arterial embolization	**+/- (liver hemangiomas)**	**AVM +++**

PDL=pulsed dye laser; CM=capillary malformation; VM=venous malformation; LM=lymphatic malformation; AVM=arteriovenous malformation

Vascular tumors and vascular malformations – the possibility of coexistence

- Hemangioma + Port-wine stain
- Capillary malformation + venous malformation
- Hemangioma + Cutis marmorata teleangietactica congenita
- Pyogenic granuloma + Capillary malformation
- Spindlecell Hemangioepithelioma + venous malformation

Patient 1.

- 12-year-old girl
- extensive venous malformation of the left arm with bone marrow cavity involvement
- capillary-lymphatic malformation of the front left thigh.

Patient 1.

- Doppler ultrasound, MRI and phlebography was performed to confirm diagnosis
- *extensive lesions in the soft tissues of the arm, elbow, forearm*
- *tortuous vessels of different diameter, phlebolits,*
- *muscles involvment: triceps brachii , brachialis, antebrachii flexors*
- *penetration into humerus bone marrow cavity*

Patient 1.

- Sclerotherapy for the venous malformation with 2% Aethoxysklerol foam with improvement
- Pulse dye laser therapy (PDL) for capillary malformation is being continued

Patient 2.

- 11-year-old boy
- cutaneus capillary malformation (CM) of the left lower extremity
- microcystic lymphoadipose malformation resistant to sclerotherapy
- US performed
- MRI and surgery was planned
- PDL laser for cutaneous lesion

Patient 3.

- 7-month-old baby girl
- infantile hemangioma (IH) on abdomen
- subcutaneous hemangioma on the back
- Doppler US confirmed diagnosis.
- oral propranolol (2mg/kg/day).
- After 2 months therapy regression was observed especially of subcutaneous IH

Patient 4.

- 4-month-old baby girl
- capillary malformation on the forehead
- infantile hemangioma on the right parietal area
- 3% propranolol ointment for hemangioma
- pulse dye laser for CM was suggested at the age of 1 year

ISSVA

Conclusions:

1. Vascular tumors and vascular malformations can coexist in the same patient.
2. Treatment should be individual and adequate to patient's clinical status
3. Proper diagnosis and treatment of vascular anomalies is based on ISSVA classification