Classification of vascular anomalies (ISSVA)
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Diseases...
• Search for Vascular birthmark on Google

Heamangioma’s-AVM’s
- Parkes Weber syndrome
- Klippel-Trenaunay syndrome
- Capillary haemangiona
- Venous malformations
- Cavernous haemangiona
- Servelle-Martorell syndrome
- Cloves syndrome
- Banayan-Riley-Ruvalcaba syndrome
- Maffucci’s syndrome
- Proteus syndrome
- Hennekam Lymphangiectasia-lymphedema syndrome
- Nonne-Marcy syndrome

Classification (ISSVA)
www.issva.org
• Vascular Tumors
• Vascular Malformations
  • High Flow Malformations
  • Low Flow Malformations
  • Lymphatic Malformations
  • Venous Malformations
  • Capillary Malformations
Clinical and biological classification according to Mulliken and Glowacki (1982):

- **Vascular tumors**
  - Tumors with rapid, disproportional growth
  - Hemangiomas of infancy (Glut-1 positive)
  - Rapid involuting hemangioma, Non-involuting hemangioma, Kaposiform hemangioendothelioma, Tufted angioma (Glut-1 negative)

- **Vascular malformations**
  - Slow, proportional growth
  - Normal endothelium

Classification
Mulliken & Glowacki (1982)

Vascular malformations

- Low flow lesions
  - Venous malformations
  - Lymphatic malformations
  - Mixed
  - Capillary malformations
  - High flow lesions
  - AV fistula
  - AVM (arterio-venous malformation)

Vascular tumors

- Infantile Hemangioma (Glut-1 positive)
- Other vascular tumors
  - Kaposiform hemangioendothelioma
  - Tufted angioma
- Congenital hemangioma

Vascular malformations

- Slow, proportional growth
- Capillary malformation
- Venous
- Arterio-venous
- Lymphatic
- Combined, examples:
  - Klippel-Trenaunay Syndrome
  - Parker-Webber Syndrome
  - Sturge-Weber Syndrome

Issva.org/classification
Pediatrics June 2015 Wassef et al
More and more mutations are found some linked...

- AKT1
  - Proteus syndrome
- PIK3CA
  - CLOVES
- Macrocephaly-capillary malformation syndrome (M-CM)
- Klippel-Trenaunay Syndrome
- RASA-1 mutations
  - CM-AVM
- Parkes-Weber-syndrome

Classification based on causative genetical defect

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ISSVA classification for vascular anomalies
(Approved at the 20th ISSVA Workshop, Melbourne, April 2014)