

## HEMANGIOMAS AND VASCULAR MALFORMATIONS

### Description

Hemangioma, a type of birthmark, is a benign (non-cancerous) tumor made up of rapidly growing vascular cells. These congenital lesions are not necessarily apparent at birth but appear from 1-4 weeks afterwards (may initially manifest as a faint red mark). In fact, only 30% are visible at birth. Usually occurring on the head or neck, hemangiomas can appear anywhere, even on the internal organs. This type of birthmark is typified by its rapid growth and change during the first year and then its regression or slow disappearance which can last from 3-10 years. Some disappear completely while others only partially fade.

The vast majority of hemangiomas occur on the head and neck. In early stages some appear as reddish or bluish spots or patches. Red and flat hemangiomas are termed “superficial” while deep bluish ones beneath the skin are termed “deep”. A “compound” hemangioma is both deep and superficial.

Vascular Malformation is a congenital growth or birthmark that is composed of blood vessels. Unlike hemangiomas, vascular malformations due *not* grow rapidly and then regress – they continue slow growth throughout life, sometimes becoming more apparent.

These malformations are categorized into five types:

- Port Wine Stains: Capillary malformation that cause a change in skin color and may be associated with nerve supply deficiency to blood vessels.
- Venous: Similar in appearance to hemangioma, this malformation, which grows continuously, is soft to the touch and loses its color when compressed. It appears most frequently on lips, cheek, tongue and jaw.
- Lymphatic: Excess fluid accumulating in the lymphatic vessels is responsible for this condition.
- Arteriovenous: An abnormal amount of blood enters the capillary beds and fills the vessels. This presents as a fixed, hard mass.
- Mixed: A combination of the four types.

## Prevalence/Causes

Hemangiomas occur in 1% of newborns with the incidence in premature babies raising to 25%. They occur 5 times more often in females than males. Occurring predominantly in Caucasians, they are less common in African American children.

Vascular Malformations are less common than hemangiomas but with the variability within this classification it is hard to determine incidence.

Beyond the mechanism of action, the exact underlying causes of these conditions are unknown.

## Treatment

Hemangiomas are treated by *not* being treated. They are most often left to involute (fade) on their own. Later in life, surgical excision may be required for those that involute leaving behind extra skin or scarring. Early surgical intervention is reserved for those instances in which there is excessive bleeding, growth disturbance or impairment of vital functions (vision, feeding, breathing). In these severe cases, treatment may include steroid medication, injection of material into the blood vessels to occlude blood flow (embolization) or surgical excision.

Internal or visceral hemangiomas are particularly difficult to detect. They most often affect the liver, brain, airways and intestines. Jaundice may indicate liver hemangioma in a newborn; blood in the stool, intestinal; croupy cough and difficulty breathing, airway.

Vascular Malformations: Each type of malformation is treated differently.

- *Port wine stains* (capillary malformations), flat red patches on the face, are commonly treated by laser.
- *Lymphatic* malformations require surgical intervention.
- *Venous* malformations are best treated by direct injection, which causes the venous channels to clot. In some venous cases, surgery is also required.

- *Arterial* malformations are treated by injecting material under x-ray guidance into a normal artery in the area of the lesion to block the inflow of blood.
- Combination malformations require multiple types of treatment.

### Associated Conditions

- Psychosocial scarring
- Interference with eating, breathing, hearing, speaking
- Internally growing hemangiomas can cause jaundice, blood in the stool, cough/breathing difficulties