Hemangiomas are the most common soft tissue tumors of infancy, however their pathogenesis is not fully understood and treatment still remains controversial. The prevalence is 1-2% of all neonates and up to a year of age about 10%. Seen more in girls. More in premature infants <1500 grams. More than 50% occur in the cranio-facial area.

The commonest capillary hemangioma you see almost every day on the nape of the neck of newborn babies is the stork bite, also seen often on the upper lids, forehead and upper lip. This is due to maternal estrogen and usually wears off when the estrogen effect is gone at roughly 3 months. All other lesions, port wine stains, raised lesions are all abnormal and benign ninety percent of the time.

Hemangiomas may be classified by their depth in the skin. ‘Cutaneous hemangioma’ presenting clinically as a bright red papule, nodule, or plaque when fully developed. These cutaneous or superficial hemangiomas represent 50–60% of all hemangiomas. Hemangiomas can develop subcutaneously without a cutaneous component. Subcutaneous lesions may be located so deep within the skin that they appear as flesh-colored masses.

When a cutaneous (red) component is seen with an underlying, deeper induration (subcutaneous component) then the lesion is classified as a compound or mixed hemangioma.

Visceral hemangiomas are those that occur in deeper organ systems such as the liver, colon, or brain. The most rapid growth occurs in the first 6 months, they have reached maximum size by the time the patient reaches 9-12 months. It is estimated that involution occurs at the rate of 10% per year, 50% involute by 5 years and by 10 years in over 90% of the children the lesion has completely involute. The rate and completeness of resolution of a hemangioma are unrelated to sex, race, size, or clinical appearance.

Spontaneous bleeding is very rare. Parents will often restrict the child’s activity for fear of trauma and bleeding and it will help for them to know that that almost never happens. Just to take normal precautions.

Ulceration is not that common either. The incidence of ulceration ranges from fewer than 5% to as many as 10% of patients with hemangioma. Hemangiomas that ulcerate invariably leave a scar.

Extensive facial hemangiomas have been associated with arterial, central nervous system, and ophthalmologic anomalies. The acronym PHACE has been proposed for these patients to emphasize the characteristic findings: posterior fossa malformations, hemangiomas, arterial anomalies, coarctation of the aorta and cardiac defects, and eye abnormalities. Patients with large facial hemangiomas should have a complete neurologic and ophthalmologic examination, including the measurement of head circumference. Ultrasound examination is indicated in children less than 6 months old, If neurologic abnormalities are suspected then, an MRI should be performed.
The presence of multiple cutaneous hemangiomas greatly enhances the chance that the child could have visceral hemangiomas. It is uncommon for an infant with visceral hemangiomas not to have cutaneous involvement.

Liver is the most common location for visceral lesions. Hepatic hemangiomas occur 16% of the time, followed by the brain (13%), intestines (13%), lungs (13%), and tongue (11%). Hepatic hemangiomas are more closely associated with high output congestive heart failure, thrombocytopenia, and hemorrhage, the ultimate causes of morbidity in these patients.

The Kasabach–Merritt phenomenon identifies a subset of patients with a large vascular tumor and an associated thrombocytopenic coagulopathy. Studies have revealed that other vascular tumors, not common hemangiomas, are responsible for Kasabach–Merritt coagulopathy. Most often these tumors are Kaposiform hemangioendotheliomas.

Histologic examination is rarely necessary when evaluating patients with routine hemangiomas, but it can be useful in select circumstances when the diagnosis of hemangioma is uncertain. A biopsy can help differentiate hemangiomas from other conditions. Cutaneous rhabdomyosarcoma, nasal glioma, hemangio-pericytoma, tufted angioma, KHE, dermoid cysts, and some types of histiocytosis can all mimic the clinical appearance of common hemangiomas.

Treatment:
1. compression therapy
2. The use of high-potency topical steroids has been reported but has not enjoyed widespread us
3. Intralesional corticosteroids are frequently used for treatment of periocular hemangiomas.
4. Systemic steroids are most effective during the proliferative phase, which means that most children treated will be less than 1 year of age. There is no standard method of administration and the optimal method often must be individualized depending on the response of the tumor and the side effects encountered. An initial dosage of 1–3 mg/kg of oral prednisone is commonly given in one morning dose. Hemangiomas most often respond within 7–10 days. If response is seen then tapering to the lowest effective dose is recommended. Common side effects include gastrointestinal upset, sleep disturbance, temporary growth retardation, decreased appetite, and transient facial edema. More limiting, and fortunately uncommon, side effects include otitis media, pneumonia, sepsis, and hypertension.
5. Ulcerative hemangiomas respond nicely to the pulsed dye laser if in fact the ulcerative component of the hemangioma is limited and the rate of proliferative growth is mild
6. Propranolol is now considered to be the standard of care by many for the treatment of severe and high-risk hemangiomas. Most patients are started on a low dose that is slowly increased to a target of 2 mg/kg/day in divided doses with close monitoring of vital signs and follow-up. Pretreatment evaluation and monitoring parameters have not been standardized, but a recent consensus paper provides expert opinion for treatment guidelines and monitoring. Caution should be used in patients who have concomitant PHACE syndrome, cardiac abnormalities, and asthma. There are also rare but potentially serious side effects, including symptomatic hypoglycemia, hypotension, and night terrors.
7. Lastly. Timolol Maleate for Superficial Infantile Hemangiomas will be presented by Lauren Wood, PLIII with a presentation of findings in our population and information about an ongoing study.
References
Hemangiomas in Children

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