Infantile Hemangiomas in the Head and Neck Region

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KEYWORDS

• Infantile hemangioma • Focal • Segmental/regional/diffuse hemangioma
• Hepatic hemangioma • Propranolol • Timolol

KEY POINTS

- Infantile hemangioma occurs in 4% to 5% of infants and is the most common benign vascular tumor of infancy.
- Infantile hemangiomas are also classified into 3 distinct morphologic patterns that include focal, segmental/regional/diffuse, or multifocal lesions.
- Most infantile hemangiomas can be diagnosed by clinical history and physical examination.

NATURAL HISTORY

Infantile hemangioma (IH) occurs in 4% to 5% of infants and is the most common benign vascular tumor of infancy. They are not present at birth; but commonly there is a precursor lesion, such as an area of pallor, telangiectasia, or small purple area, that then brightens in color and increases in size becoming more apparent at 3 to 7 weeks of age.[1–3] The lesion then proliferates for an average of 3 to 5 months and then involutes over several years. With involution, the overlying skin is not normal and at times areas of abnormal texture, color, or residual fibroadipose tissue can be seen.

IHs are categorized as superficial, deep, or compound[1–3] (**Fig. 1**). Superficial hemangiomas appear at birth as red plaquelike lesions with minimal elevation. Deep hemangiomas are soft masslike lesions that can have a blue hue and are warm on palpation. They appear later (2–3 months), especially in areas with excess fatty tissue,

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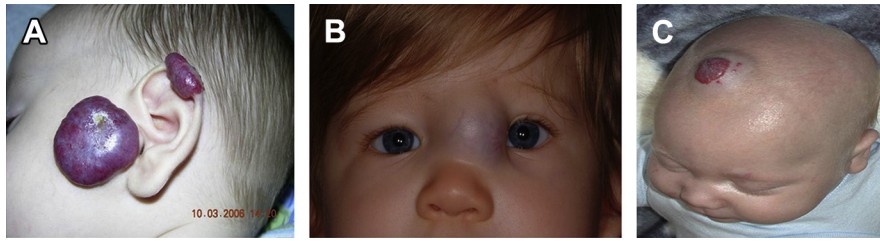

Fig. 1. IH; (*A*) superficial, local pedunculated infantile hemangioma; (*B*) deep, focal hemangioma; (*C*) compound hemangioma with deep and superficial components.

such as the neck and axilla. At times, these are confused with other soft tissue tumors; ultrasound will reveal a high-flow lesion with a typical wave characteristic of an infantile hemangioma. Mixed hemangiomas have both superficial and deep components that allow easier identification.

IHs are also classified into 3 distinct morphologic patterns that include solitary, segmental/regional/diffuse, or multifocal lesions.[1–3] These patterns are significant as they can be a clue to the possibility of other underlying syndromes. Solitary lesions are the most common, are usually uncomplicated, and commonly do not require intervention unless on an area that has a high risk for complications. IHs that cover a diffuse area have a higher risk of complications, such as ulceration, and also can be associated with syndromes, such as PHACE (posterior fossae abnormalities, hemangiomas, arterial/aortic anomalies, cardiac anomalies, eye abnormalities) (**Table 1**) and LUMBAR (lower-body hemangioma and other cutaneous defects, urogenital anomalies, ulceration, myelopathy, bony deformities, anorectal malformations, arterial anomalies, and renal anomalies) or be in a bearded distribution and have an increased risk of

Table 1
PHACE syndrome

PHACE	Anomalies	Risk
*P*osterior fossa anomalies	Cerebellar anomalies (Dandy-Walker malformation)	Developmental delay Pituitary dysfunctions
*H*emangioma	Large facial hemangioma >5 cm, large bearded distribution, shoulder, neck, back	Disfigurement, airway lesion, ulceration
*A*rterial	Cerebrovascular anomalies of major vessels: dysplasia, stenosis/occlusion, hypoplasia/aplasia, aberrant origin, saccular aneurysm Persistent embryonic arteries	Progressive arterial occlusion Stroke Other neurologic issues
*C*ardiac	Aortic arch anomalies including coarctation of the aorta, aortic dysplasia, aberrant subclavian artery, right-sided aortic arch, ventricular septal defect, atrial septal defect	Congenital heart disease requiring surgical repair
*E*ye	Microphthalmos, retinal vascular abnormalities, persistent fetal retinal vessels, exophthalmos, coloboma, and optic nerve atrophy	Visual loss