AAP News™

Infants with high-risk hemangioma need referral, treatment by 4-6 weeks of age

December 24, 2018

Daniel P. Krowchuk, M.D., FAAP; Ilona J. Frieden, M.D., FAAP

Article type: News

Topics: Fetus/Newborn Infant

Pediatricians understand that infantile hemangiomas (IHs) are relatively common birthmarks, and most seen in a primary-care setting are small, innocuous, self-resolving and require no treatment.

What is less well-appreciated by some, however, is that a significant minority of IHs are potentially problematic because of their size or location. Some cause functional impairment or other medical morbidities, but even more commonly, they can leave permanent and disfiguring scars.

In 2016, the Academy convened a multidisciplinary subcommittee to create its first *Clinical Practice Guideline for the Management of Infantile Hemangiomas.* The guidelineis available at http://pediatrics.aappublications.org/content/early/2018/12/20/peds.2018-3475 and will be published in the January issue of *Pediatrics*.

Indications for early treatment

IHs that are potentially high risk and may require evaluation and/or treatment include:

1. **IHs associated with life-threatening complications**, including those that obstruct the airway; liver IHs associated with high-output congestive heart failure; and, very rarely, profuse bleeding from an ulcerated IH.
2. **IHs that cause functional impairment or a risk thereof**, including IHs near the eye (causing visual disturbance) or those involving the lips or mouth (interfering with feeding);
3. **IHs that ulcerate or pose a risk for this complication**. Ulceration can lead to significant pain, bleeding and secondary infection, and almost always results in scarring. It occurs most frequently in infants younger than 4 months of age during the period of rapid IH proliferation. Ulceration is especially common in IHs that are of the superficial or mixed type, segmental and those located on the scalp, neck, perioral, perineal, perianal or intertriginous sites.
4. **IHs that may be associated with underlying structural abnormalities.** These are usually “segmental” IHs that occupy a large anatomic territory, often measuring more than 5 centimeters in diameter. The most common example is PHACE syndrome (**P**osterior fossa defects, **H**emangiomas, cerebrovascular **A**rterial anomalies, **C**ardiovascular anomalies including coarctation of the aorta, and **E**ye anomalies) in which a segmental IH of the face or scalp is associated with intracranial and aortic arch vascular anomalies.
5. **IHs that may lead to disfigurement and permanent scarring.** IHs, especially those with a prominent superficial “strawberry” component, often result in scarring and stretch mark-like skin changes. Those involving the face (e.g., lip, nose, ear) can lead to permanent distortion of anatomic landmarks. Concern about the potential for disfigurement is the most common reason infants receive treatment for IHs.

Ensure timely intervention

There is a window of opportunity to intervene and prevent poorer outcomes in infants who have a high-risk IH.

The most rapid growth of IHs occurs between 1 and 3 months' chronologic age. Most IHs reach 80% of their ultimate size by 3 months of age, and the large majority complete growth by 5 months of age.

In a study using parents' photographs to analyze IH proliferation, a period of accelerated growth was seen between 5 and 7 weeks of age. As a result, infants who have a high-risk IH should be referred or treated promptly, ideally by 4 to 6 weeks of age. This is much earlier than most infants currently are being referred.

Failing to refer and/or intervene early may lead to skin damage and distortion of anatomic landmarks. Although decisions regarding intervention must be individualized, a "wait and see" approach may result in a missed window of opportunity to prevent adverse outcomes.

Treatment options

Propranolol is the drug of choice for IHs that require systemic therapy. The dose is 2-3 mg/kg/d (unless there are comorbidities or adverse effects that necessitate a lower dose). Doses typically are administered twice daily during or immediately after a feeding to prevent hypoglycemia.

Prednisone and prednisolone are second-line agents that may be used if there are contraindications to or an inadequate response to propranolol.

Topical timolol may be prescribed for thin and/or superficial IHs.

Intralesional steroids, surgery and laser therapy may be beneficial in selected IHs.

Parent education

Clinicians should educate parents of infants who have IHs about the condition, including the expected natural history and their potential for causing complications or disfigurement.

An important component of education is the recognition that it may be difficult to obtain an appointment with a hemangioma specialist in a timely manner. In such cases, caregivers and clinicians may need to advocate on behalf of the infant. If such a specialist is not immediately available, telemedicine triage or consultation, using photographs taken by caregivers or the clinician, can be helpful.

Drs. Krowchuk and Frieden are lead authors of the guideline. Dr. Krowchuk was chair and Dr. Frieden vice chair of the AAP Subcommittee on the Management of Infantile Hemangiomas, which developed the guideline.

Resource

- AAP webpage Diagnosis and Management of Infantile Hemangiomas