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Narrative Review

The Three Most Important Messages for Parents of a Child with Facial Infantile Hemangioma

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KEYWORDS

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ABSTRACT

Infantile hemangioma (IH) is the most common vascular tumor affecting infants. The most IH lesions follow a benign and self-limited course. Facial IHs are especially concerning because of their potential functional impairment and psychosocial impact. The author illustrates the main useful information to help families understand the nature of this tumor, its progression over time and the therapeutic management options.

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Introduction

Infantile hemangioma (IH) is the most common vascular tumor affecting infants, occurring in approximately 4% of children. It predominantly affects females, with a female-to-male ratio near 3:1. While most IH lesions follow a benign, self-limited course, about 12% require specialized evaluation and treatment due to risk of complications. Facial IHs are especially concerning because of their visible location, potential functional impairment, and psychosocial impact. Clear, compassionate communication with parents from diagnosis onward is crucial to help families understand the condition's nature, expected course, and management options.

IHs typically develop in three phases. The initial proliferative phase begins shortly after birth and is characterized by rapid endothelial cell growth and tumor enlargement. This phase often raises alarm among parents because of the fast and sometimes dramatic increase in lesion size, especially when on the face. The subsequent plateau phase involves stabilization of growth. Finally, the involutional phase entails gradual regression of the lesion over months to years. It is important for clinicians to emphasize the usually benign nature of IH and the expectation that most lesions will shrink and become less noticeable without intervention, which can reassure parents and reduce anxiety.

Clinical presentation

However, prognosis is not determined solely by tumor biology but largely depends on lesion location, size, and number. Hemangiomas near vital facial structures such as the eyes, nose, lips, and airway can cause functional problems (Fig. 1). For example, periocular hemangiomas may interfere with vision and cause amblyopia. Airway hemangiomas—often seen in PHACE syndrome—may obstruct breathing and necessitate urgent treatment. PHACE syndrome, a complex disorder involving posterior fossa malformations, arterial anomalies, cardiac defects, and eye abnormalities, is frequently associated with subglottic hemangiomas that can compromise the airway and require close monitoring and intervention (1).

Fig. 1. *Infant affected by infantile haemangioma of the upper lip, which deforms the lip and interferes with breastfeeding.*

Complications

Ulceration is a common and troubling complication of IH, most frequently occurring during the proliferative phase but possible in all stages. Ulcerated hemangiomas cause significant pain, risk infection, bleeding, and distress to both infant and caregivers (Fig. 2). Management requires careful wound care using advanced dressings such as silicone or hydrocolloid materials that protect the lesion and promote healing. Parents should receive detailed instructions on wound care to minimize complications and discomfort (2).

Bleeding from ulcerated IH can often be controlled initially with pressure dressings. Topical tranexamic acid may assist in controlling hemorrhage. While rare, persistent or severe bleeding may require embolization or surgical removal (5). Infections complicate up to 43% of ulcerated hemangiomas. Superficial infections typically respond to topical antibiotics, but systemic antibiotics are warranted if deeper or spreading infection is suspected (5).

Fig. 2. *Infant affected by infantile haemangioma of the right ear. The lesion is ulcerated, is painful and deforms the pavilion.*

Treatment

The introduction of propranolol revolutionized IH treatment. This non-selective beta-blocker rapidly reduces tumor size and vascularization through vasoconstriction, inhibition of angiogenesis, and induction of endothelial cell apoptosis. Propranolol is now the first-line therapy for complicated IH, including those causing functional impairment or ulceration. Its efficacy and safety are supported by multiple studies and large patient cohorts (4). Treatment initiation requires educating parents on potential side effects such as bradycardia, hypotension, hypoglycemia, and bronchospasm. Careful monitoring during dose escalation is critical to ensure safety and optimize outcomes.

Adjunctive pulsed dye laser (PDL) therapy can accelerate healing of ulcerated hemangiomas, reduce pain, and improve residual cosmetic appearance. Studies demonstrate that combining propranolol with laser therapy results in superior clinical outcomes, with over 90% of patients showing improvement after an average of two laser sessions (4).

Terapeutic education

Therapeutic education is fundamental for successful IH management. Clear communication, empathetic support, and active parental involvement in decision-making foster compliance and reduce anxiety. Providing written materials and nursing support for wound care and medication administration can empower families to confidently manage their child's condition at home. Because facial IH can cause visible changes affecting social interactions and self-esteem, multidisciplinary care involving dermatology, pediatrics, surgery, and psychology is often beneficial to address medical and emotional needs comprehensively.

Conclusion

In conclusion, managing facial infantile hemangiomas requires a comprehensive approach combining expert medical care, vigilant monitoring, and effective family education. Clinicians must convey the natural history of IH, address complications such as airway obstruction and ulceration, and explain evolving treatments like propranolol and laser therapy. Supporting families through clear communication and multidisciplinary care optimizes both medical and psychosocial outcomes for children with facial IH.

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