

The importance of propranolol treatment in segmental infantile hemangioma

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Infantile hemangiomas (IH) are common benign tumors of childhood. Typically, they arise within the first weeks of life, and, after an initial proliferative phase, they involute spontaneously without requiring treatment. However, a subset of IH result in complications such as functional impairment, ulceration, or disfigurement. In these cases, treatment is required. Compared with non-segmental IH, segmental IH are at a higher risk of these complications, and moreover, they have an increased risk of relapse after treatment discontinuation. We present a case illustrating the importance of oral propranolol treatment in segmental IH.

OUR PATIENT'S STORY

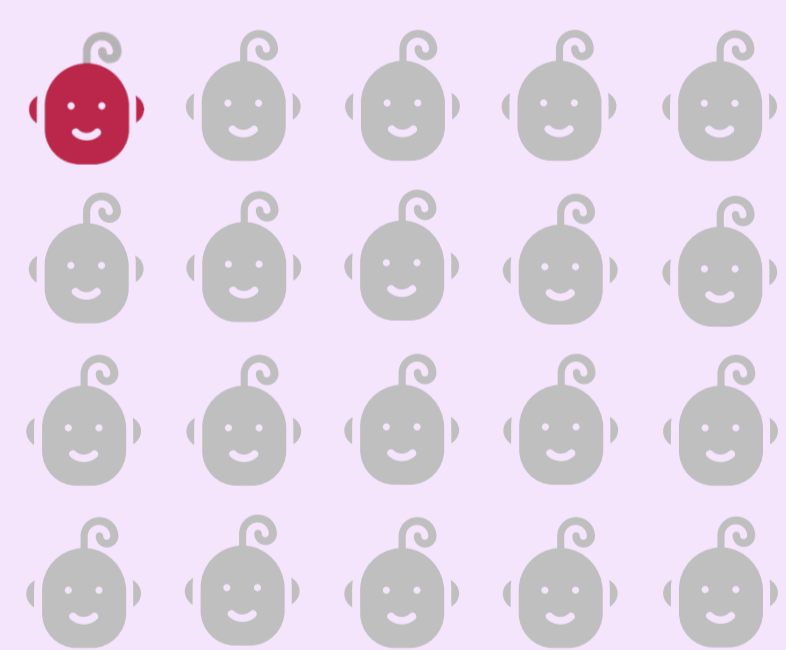
A worried couple presented their two-month-old daughter for evaluation of a red-purple tumor on the leg. The girl was born at term after an uncomplicated pregnancy and birth. No cardiac or respiratory problems were reported. The parents had already obtained the advice from a pediatrician and a dermatologist 'not to intervene actively' and 'to further observe'. Clinically, we noticed an infantile hemangioma in a segmental distribution, reaching from the knee, over the ventral and medial part of the lower leg, becoming nearly circular at the ankle. We initiated treatment with oral propranolol 1mg/kg and later increased to 2mg/kg. Clinical improvement was rapidly noticed and is still ongoing as the treatment has been continued up to now, at nine months of age.



Clinical evolution of our patient's IH. Note the segmental distribution and the trauma-prone location. From left to right: before, after two weeks, two months and seven months of treatment.

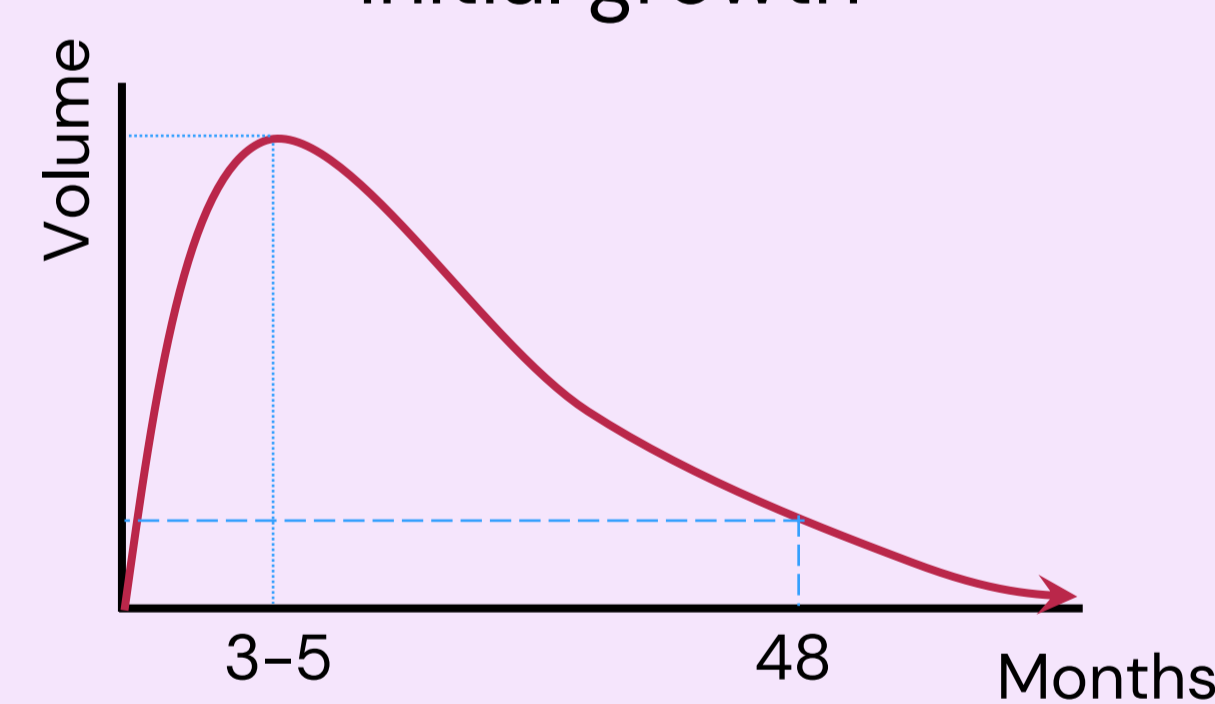
INFANTILE HEMANGIOMAS

Most common benign tumor of infancy

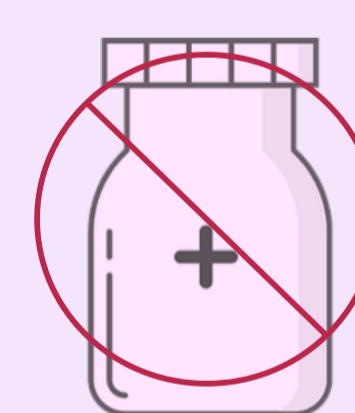


4.5%

Spontaneous involution after initial growth



Usually, **no treatment** is required



However, some result in **complications**:



- Functional impairment
- Ulceration
- Disfigurement

Therefore, **high-risk** infantile hemangiomas **do require therapy!**

SEGMENTAL vs NON-SEGMENTAL INFANTILE HEMANGIOMAS

Segmental IH are IH involving a broad developmental anatomic region of the skin. Compared with non-segmental IH, segmental IH are at a higher risk of complications and, moreover, they are associated with an increased risk of relapse after treatment discontinuation. This may be explained by the longer duration of the proliferative phase in segmental compared with non-segmental IH. Segmental IH also differ in origin: variant arterial anatomy during fetal development may cause localized hypoxia and stimulate blood vessel neogenesis; rather than generalized in utero hypoxia being a trigger for non-segmental IH. In order to avoid severe complications that stand in the way of healthy childhood development, clinicians should recognize segmental IH, initiate oral propranolol treatment and continue it long-term up to at least 9-12 months of treatment duration.



12% of IH are **segmental IH**

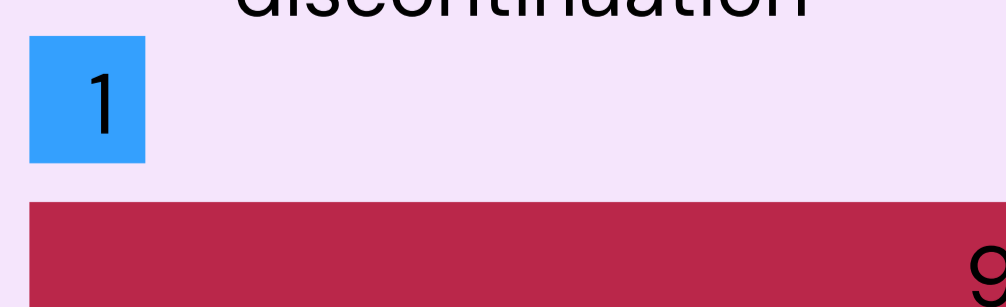
11x

more likely to develop **complications**



9x

increased risk for **relapse** after treatment discontinuation



Treatment is indicated and should be **prolonged** until 9 to 12 months of treatment duration