

A Case of Infantile Hemangioma

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A healthy 5-month-old girl presented with a vascular plaque over the back that had been noted a few weeks after birth. The plaque had begun as an erythematous patch that had grown fairly rapidly over the first 2 months, with slower growth recently. She had been born to a gravida 3, para 2, 30-year-old mother at term following an uncomplicated pregnancy and normal spontaneous delivery. Her Apgar scores were 7 and 9 at 1 minute and 5 minutes, respectively. Her birth weight was 2.74 kg, length was 49 cm, and head circumference was 39.2 cm. She had been exclusively breastfed and was thriving.

Physical examination revealed a happy-appearing girl in no distress. Her vital signs were normal. A large vascular plaque was noted over the left mid back (**Figure 1**). The rest of the physical examination findings were normal. In particular, she did not have apparent visceromegaly or dysmorphic features.

Based on the timing of appearance of the lesion, its rapid growth in the first few months of life, its slower growth later on, and the color of the lesion, a diagnosis of infantile hemangioma was made. The parents were reassured of the benign nature of the lesion and that it would resolve spontaneously with time.

DISCUSSION

Typically, an infantile hemangioma (formerly referred to as “capillary hemangioma” or “strawberry hemangioma”) presents as an asymptomatic, sharply demarcated, bright red, protuberant plaque or nodule with an either bosselated or smooth surface. Infantile hemangiomas are the most common vascular tumors of infancy, accounting for approximately 55% of cases.^{1,2}

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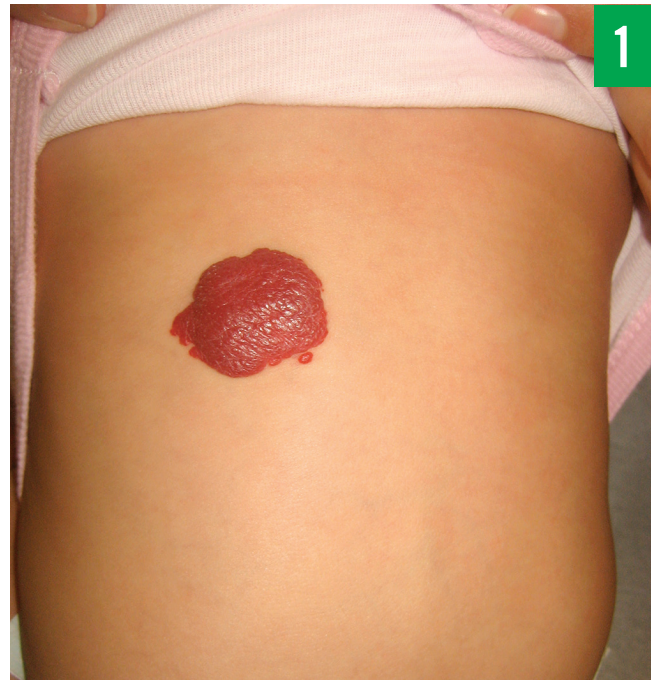
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A 5-month-old girl with infantile hemangioma on the left mid back.

Infantile hemangiomas typically appear in the first few weeks of life as areas of pallor, followed by telangiectatic or faint red macules or patches with surrounding pallor.¹⁻⁵ Characteristically, infantile hemangiomas grow rapidly in the first 3 to 6 months of life (proliferative phase), beyond the growth rate of the infant, as illustrated in the presented case.⁶ The growth rate then slows to parallel the growth of the child (quiescent or plateau phase).^{1,2,6} Involution typically begins by the time the child is 1 year old (involution phase). Approximately 50% of infantile hemangiomas have involuted by age 5, 70% by age 7, 90% by age 9, and 95% by age 12.^{1,2,7} Although infantile hemangiomas can appear anywhere on the skin, they have a predilection for the head and neck region.^{2,8-10}

The differential diagnosis includes, among others, congenital hemangiomas, port-wine stain, salmon patch, and pyogenic granuloma. The characteristic features of these conditions are summarized in the **Table**. Congenital hemangiomas are benign high-flow vascular tumors that proliferate in utero and are fully developed at birth and do not proliferate further postnatally.¹¹



A rapidly involuting congenital hemangioma on the right knee of an infant at 3 days of age (left) and again at 6 months of age (right).



A noninvoluting congenital hemangioma on the right thigh of a 4-year-old child.

Typically, a congenital hemangioma presents as a solitary bluish or violaceous nodule or, less commonly, as a plaque with overlying telangiectases and venules.¹¹ A pale surrounding halo is quite common. A central ulcer may also occur. Sites of predilection include the head, neck, and limbs, especially around the elbows and knees.¹² Two major clinical subtypes are recognized, namely, rapidly involuting congenital hemangiomas (RICH) and noninvoluting congenital hemangiomas (NICH), based on

their clinical progression. RICHs typically shrink rapidly after birth with complete involution usually by 6 to 14 months of age (**Figure 2**).^{11,13,14} NICHs, on the other hand, do not regress but instead grow proportionally with the child and remain static throughout the lifetime (**Figure 3**).^{2,11,13} A subset of congenital hemangiomas, known as partially involuting congenital hemangiomas (PICHs), begin with a phase of involution lasting until 12 to 30 months of age, at which time the involution halts.^{2,11,15,16}

Typically, a port-wine stain, also known as nevus flammeus, presents as a sharply demarcated pink or red macule or patch at birth (**Figure 4**).¹⁷ Port-wine stains may appear to fade during the first 12 months of life due to the natural fall in hemoglobin. The capillaries become more ectatic with age, and the color thereafter gradually deepens. Port-wine stains often become dark red during adolescence and violaceous with advancing age.¹⁷ Although they are initially macular, the surface might become irregular, thickened and nodular over time.¹⁷ Port-wine stains can occur in any cutaneous location, but facial involvement is most common. They are usually unilateral, segmental, and do not follow the lines of Blaschko. These lesions tend to persist throughout life. Although usually an isolated finding, port-wine stains can be a cutaneous feature of Sturge-Weber syndrome and Klippel-Trenaunay syndrome.

A salmon patch, also known as nevus flammeus simplex, typically presents as a scarlet to pink macule that is blanchable and that deepens in color with vigorous activity, crying, straining



4 A port-wine stain over the left temporal scalp, upper helix of the left ear, and left side of the neck of a 3-month-old infant.



5 A salmon patch over the occipital scalp in a 3-month-old infant.



6 A friable bleeding pyogenic granuloma over the left posterior shoulder of a 10-year-old boy.

with defecation, breath-holding, or changes in ambient temperature (**Figure 5**).¹⁸ They are usually bright red or pink in White infants and are darker in Asian or Black infants. The lesions are most commonly found on the nape, followed by the glabella and eyelids. Salmon patches are usually symmetric, with lesions on both eyelids and/or on both sides of the midline. Prominent lesions in the glabella may be associated with Beckwith-Wiedemann syndrome and fetal alcohol syndrome.¹⁸ Despite their midline location, most salmon patches, except those in the sacral area, are not associated with spinal dysraphism.¹⁸ Salmon patches on the eyelids and glabella usually disappear by 2 to 3 years of age.¹⁹ Nuchal and sacral lesions tend to persist longer.¹⁹

Pyogenic granuloma, also known as granuloma pyogenicum or lobular capillary hemangioma, is an acquired, benign vascular proliferation of the skin and mucous membranes.²⁰ Cutaneous pyogenic granulomas are commonly located on the head and neck (62.5%), trunk (19.7%), and extremities (17.9%), especially the fingers.²¹ In the oral cavity, pyogenic granulomas are more frequent on the gingiva. The condition is more prevalent in children, adolescents, and pregnant women, and has been associated with minor trauma, ingrown nails, and medications. Pyogenic granuloma typically develops as a small erythematous papule on the skin or oral mucosal surface. The papule usually enlarges quickly to a few millimeters and

Table. Differential Diagnosis of Infantile Hemangioma

Condition	Onset	Location	Prognosis	Characteristics
Infantile hemangioma	Birth or shortly thereafter	Anywhere (notably, head, neck)	Spontaneous resolution	Asymptomatic, sharply demarcated, bright red, protuberant plaque or nodule with a bosselated or smooth surface
Congenital hemangioma	Birth	Head, neck, elbows, knees	Spontaneous resolution by 16 months for RICH; persistence for NICH	Asymptomatic, solitary, bluish or violaceous nodule
Port-wine stain	Birth	Face	Tends to persist	Asymptomatic, sharply demarcated pink or red macule or patch
Salmon patch	Birth	Face	Lesions on the eyelids/glabella usually resolve by 3 years of age	Asymptomatic, scarlet to pink macule with less well-defined borders
Pyogenic granuloma	Childhood and pregnancy	Head, neck, trunk, fingers, gingiva	Spontaneous resolution is rare except those associated with pregnancy	Soft, dome-shaped, bright red papule with a smooth, glistening, erosive, or friable surface

Abbreviations: NICH, noninvoluting congenital hemangioma; RICH, rapidly involuting congenital hemangioma.

occasionally a few centimeters over weeks, and growth stabilizes over several months. Clinically, pyogenic granuloma presents as a soft, dome-shaped papule with a smooth, glistening, erosive, or friable surface (Figure 6). The color is usually bright red to dusky red initially. With time, the vascularity decreases, and the lesion tends to become more collagenized and pink. Characteristically, the lesion is painless. Due to its pronounced vascularity, a pyogenic granuloma tends to bleed and ulcerate even with very minor trauma. As such, patients often present with the “Band-Aid sign,” where the patient presents with the lesion covered by an adhesive bandage. The lesion is usually solitary, but multiple lesions may occur. Pyogenic granulomas that develop during pregnancy tend to resolve on their own after delivery. Spontaneous resolution of other pyogenic granulomas is rare, and they are usually removed surgically or treated with topical imiquimod or topical β -blockers. ■

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