

An unwelcome invitee of newborn -strawberry hemangioma

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Abstract Infantile hemangiomas (IH) or strawberry hemangioma are benign vascular neoplasms that have a characteristic clinical course marked by early proliferation and followed by spontaneous involution. Hemangiomas are the most common tumours of infancy and usually are medically insignificant. Cutaneous hemangioma at particular sites is more common at head and neck followed by trunk and extremities. Extracutaneous hemangiomas were more common in liver, gastrointestinal tract, larynx, central nervous system, pancreas and lungs. We represent a 4-month-old boy presented with a small but growing, strawberry-colour tumour over the right side of neck since birth.

Key words

Cutaneous vasculature, hemangiomas, strawberry, vascular malformations.

Introduction

A 'hemangioma' of infancy is a benign overgrowth of blood vessel cells in the skin. The incidence ranges from 1% in neonates to 12%.^{1,2} These are known to appear soon after birth, proliferate for 8-18 months, and then slowly regress over the next 5-8 years, leaving behind normal or slightly blemished skin.^{3,4}

Hemangiomas are common birthmarks which are usually red or purple. They mostly occur on the head and neck areas and develop shortly after birth. One in 10 babies will develop a hemangioma and it is more common in girls. This report describes strawberry hemangioma over neck since birth.

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Case report

A 4-month-old boy presented with a small but growing, strawberry-colour tumor over the right side of the neck. It started as a small mass since birth, gradually enlarged attaining present size of 3 × 1-1.5 cm and oval shape. The parents were concerned about the growth and appearance of tumour.

The boy had been born term at 38 weeks gestation and no maternal fever, tachycardia, chorioamnionitis, or other complications had occurred.

On admission, physical examination showed an erythematous, oval shaped tumour with diameter of 3 × 1-1.5 cm over the right side of neck (**Figure 1**). No other areas of body were affected.

The possible differential diagnoses considered were cherry hemangioma, lipoma, lymphangioma, lobular capillary hemangioma. After discussing with parents, punch biopsy was performed.



Figure 1 shows strawberry colour mass over right side of neck.

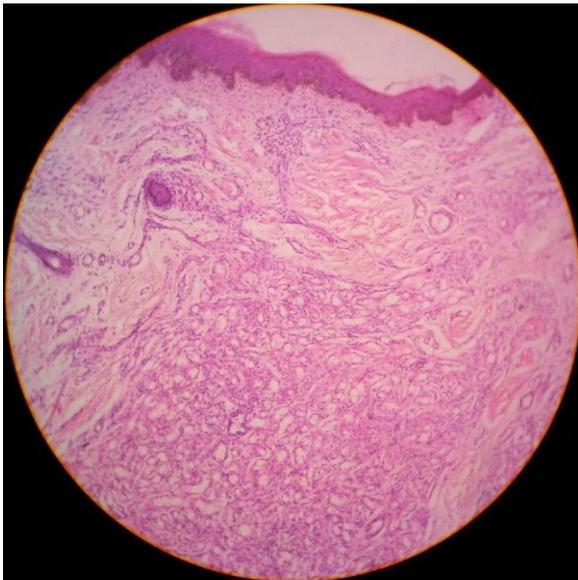


Figure 2 Parakeratinized stratified squamous epithelium of varying thickness and the fibrous connective tissue with numerous endothelial lined capillaries of varied size and few blood vessels.

Histopathological examination of the specimen showed the parakeratinized stratified squamous epithelium of varying thickness and the fibrous connective tissue with numerous endothelial lined capillaries of varied size and few blood vessels, which were yet to be lumenized (**Figure 2, 3**). Diagnosis of capillary hemangioma was confirmed. After evaluating the boy and noting the hemangioma location and because of

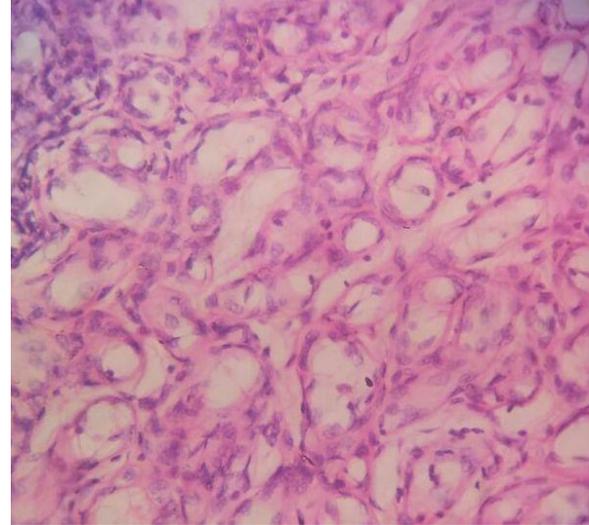


Figure 3 Endothelial lined capillaries, few are thrombosed, as well.

parent's anxiety and apprehension, the boy was referred to pediatric surgery.

Discussion

IH is a benign, self-involuting tumour of endothelial cells that usually appears during the first weeks to months of life.⁵ It is one of the most common birthmarks among newborns. Most infantile hemangiomas reach a maximum size of 0.5-5 cm, but they can range from the size of a pinhead to greater than 20 cm in diameter. Hemangiomas are found in up to 10% of children by the age of 1 year and are more common in girls and premature infants. Their cause is unknown. In very rare instances, they may run in families, but they generally are not inherited.

Infantile hemangiomas are classified as superficial, deep or mixed lesions.

- The superficial infantile hemangioma is also called capillary hemangioma, capillary nevus, strawberry hemangioma, strawberry nevus, and hemangioma simplex.² The blood vessels in uppermost layers of the skin are dilated.

- Deep infantile hemangiomas are also called cavernous hemangiomas and are more deeply set in the dermis and subcutis. They appear as a bluish soft to firm swelling.
- Both types of hemangiomas may occur together in mixed angiomatous nevi. A strawberry nevus overlies a bluish swelling.

Regulators of hemangioma growth and involution are poorly understood. During the growth phase, two major proangiogenic factors are involved: basic fibroblast growth factor (bFGF) and vascular endothelial growth factor (VEGF).⁶ Potential explanations for the therapeutic effect of propranolol (a non-selective beta-blocker) on IH include: vasoconstriction, which is immediately visible as a change in colour, associated with a palpable softening of the hemangioma; decreased expression of VEGF and bFGF genes through the down regulation of the RAF-mitogen-activated protein kinase pathway.⁷ The response of IH to propranolol has been reported by Léauté-Labrèze *et al.*⁸

IH usually involutes over time: 30% resolve by 3 years of age, 50% by 5 years of age, and 80% to 90% by 9 years of age.⁴ More than half of hemangiomas heal with excellent cosmetic results without treatment. Nevertheless, some hemangiomas require treatment, such as when a vital organ (e.g., eye, ear, trachea) is involved; when bleeding, ulceration, crusting, or infection is present; or when their rapid growth leads to deformity of surrounding tissues. IH in certain areas, particularly the face (especially the nose and lips), body folds, and groin, have a higher risk of complications.

The vast majority of IH do not require any medical or surgical intervention. Medical care of clinically significant IH has been limited to a few medications, including glucocorticosteroids (topical, intralesional and oral), interferon alfa⁹ and, rarely, vincristine. Beta-blockers, most

specifically propranolol,¹⁰ have serendipitously been shown to induce involution of IH.^{8,11} Pulsed dye laser surgery has also been used.¹²

Certain benefits to early surgical excision include saving a life or preserving vision if it is near to eye and decreasing the negative psychosocial effects associated with a cosmetically disfiguring lesion during early childhood.

Conclusion

We have described case of capillary or strawberry hemangiomas, concluding that despite the rarity of these lesions in boys and term infants, they should be considered in the differential diagnosis of lesions in the neck region.

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