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Case Report

Hobnail Hemangioma Presenting as a Solitary Facial Papule in a Child: A Clinicopathological Correlation

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ABSTRACT

Hobnail hemangioma, also known as targetoid hemosiderotic hemangioma, is a rare benign vascular tumor characterized by distinctive histopathological features including superficial dilated vascular spaces lined by hobnail endothelial cells and deeper angulated vascular channels. It most commonly occurs on the trunk and extremities, while facial involvement in children is uncommon and may pose a diagnostic challenge. We report a child presenting with a solitary, asymptomatic papule over the cheek that gradually increased in size over several months. Clinical differentials included pyogenic granuloma, angiokeratoma, and Spitz nevus. Excisional biopsy was performed for definitive diagnosis. Histopathological examination revealed a biphasic vascular proliferation with superficial dilated vessels lined by hobnail endothelial cells and deeper slit-like vascular spaces with erythrocyte extravasation, confirming the diagnosis of hobnail hemangioma. The lesion was completely excised with no recurrence on follow-up. This case highlights an unusual pediatric facial presentation and underscores the importance of histopathology in differentiating this entity from other vascular tumors.

Keywords: *Hobnail hemangioma; targetoid hemosiderotic hemangioma; pediatric dermatology; vascular tumor; histopathology.*

INTRODUCTION

Hobnail hemangioma is an uncommon benign vascular tumor first described by Santa Cruz and Aronberg.[1] It typically presents as a solitary violaceous papule, often surrounded by a pale or ecchymotic halo, most frequently involving the trunk and extremities.[2] Pediatric cases and facial involvement are relatively rare and may lead to diagnostic confusion with other benign and malignant vascular lesions. Recognition of this entity is important to avoid misdiagnosis and unnecessary aggressive management.

CASE PRESENTATION

Patient demographics and presenting complaints

A child presented with a solitary papule over the cheek of several months duration. The lesion was asymptomatic and had gradually increased in size.

Medical and clinical history

There was no history of trauma, bleeding, ulceration, or preceding skin lesion. The child had no significant past medical history, and family history was non-contributory.

Examination findings

Cutaneous examination revealed a solitary, well-defined, dome-shaped papule over the cheek. The lesion was smooth surfaced and skin-colored to slightly violaceous. There was no crusting, ulceration, or surrounding induration. Regional lymph nodes were not palpable.

Diagnostic workup
Considering the clinical differentials of pyogenic granuloma, angiokeratoma, and Spitz nevus, an excision biopsy was performed. Histopathological examination revealed a well-circumscribed vascular proliferation in the dermis. The superficial dermis showed dilated vascular channels lined by endothelial cells exhibiting hobnail morphology, characterized by protruding nuclei into the lumen. The deeper dermis showed irregular, angulated, and slit-like vascular spaces dissecting between collagen bundles, along with focal erythrocyte extravasation. No cytologic atypia or mitotic activity was observed.

Differential diagnoses considered
Clinical differentials included pyogenic granuloma, angiokeratoma, and Spitz nevus. Histopathological differentials included Kaposi sarcoma, retiform hemangioendothelioma, and low-grade angiosarcoma.

Treatment provided
Complete surgical excision of the lesion was performed.

Figure 1: Clinical photograph showing a solitary, dome-shaped papule over the cheek.

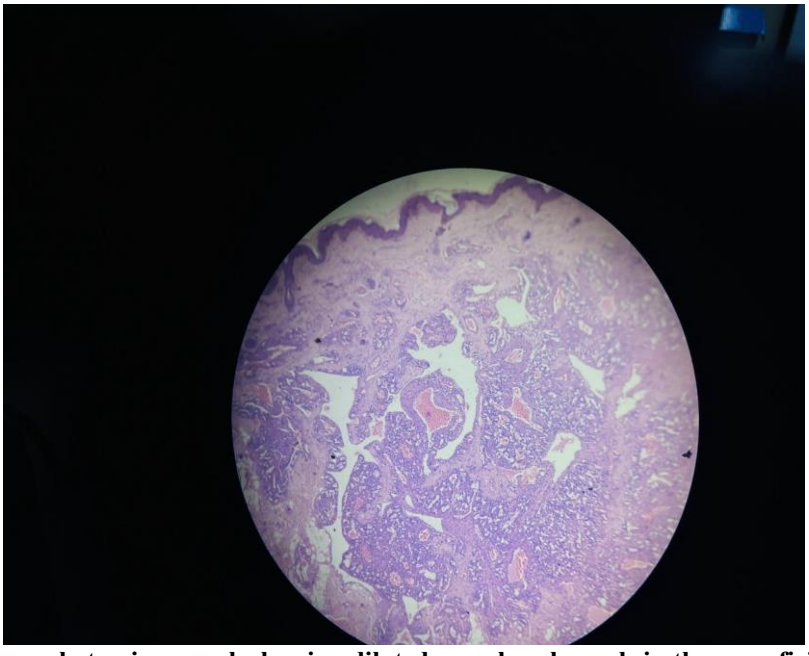

Figure 2: Low-power photomicrograph showing dilated vascular channels in the superficial dermis (H&E).

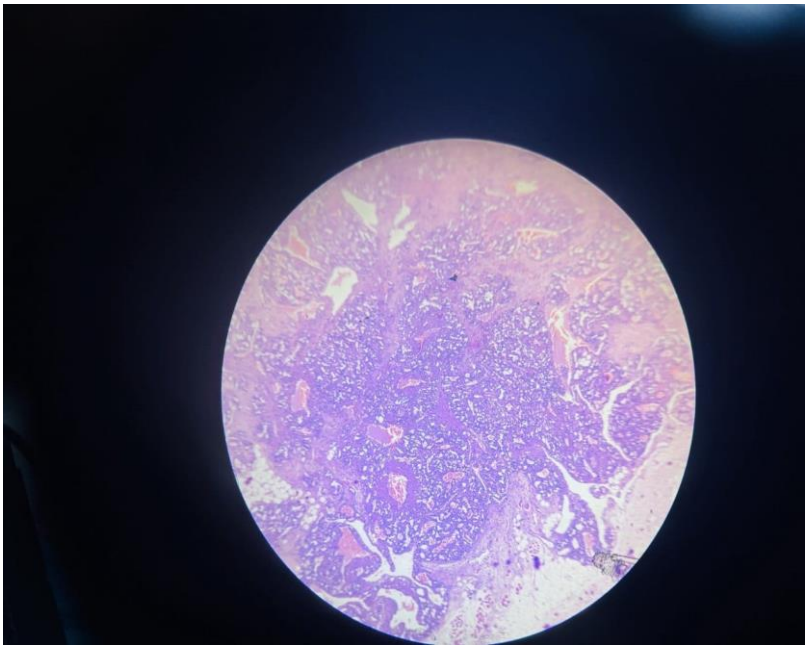

Figure 3: Intermediate magnification showing irregular vascular spaces with erythrocyte extravasation (H&E).

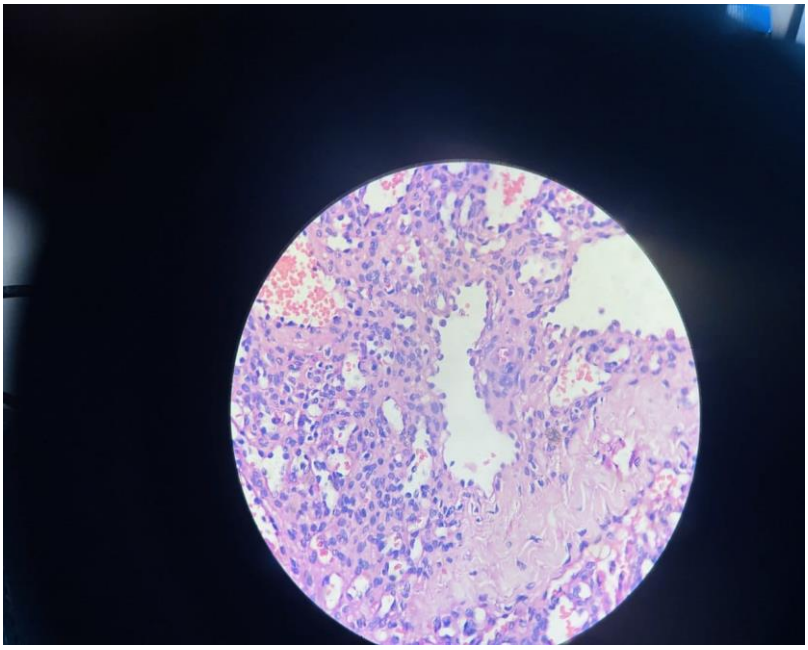

Figure 4: High-power photomicrograph demonstrating hobnail endothelial cells protruding into the lumen (H&E).

Follow-up and outcome

The postoperative course was uneventful, and no recurrence was noted on follow-up.

DISCUSSION

Hobnail hemangioma is characterized by a distinctive biphasic vascular pattern consisting of superficial dilated vessels and deeper irregular vascular channels.[1r] The endothelial cells lining the superficial vessels show a characteristic hobnail appearance due to protrusion of nuclei into the vascular lumen. The exact pathogenesis remains unclear, but it is considered a benign vascular proliferation.

The primary importance of recognizing this lesion lies in differentiating it from more aggressive vascular tumors. Kaposi sarcoma typically shows spindle cell proliferation and is associated with HHV-8 infection, while retiform hemangioendothelioma and angiosarcoma exhibit infiltrative growth patterns with cytologic atypia and increased mitotic activity.[2r] The absence of atypia and the presence of a biphasic vascular architecture support a benign diagnosis in hobnail hemangioma.

Although most cases are reported in young adults, pediatric cases have been described. Facial involvement, as seen in our case, is uncommon and may lead to misdiagnosis clinically. Complete excision is both diagnostic and therapeutic, with recurrence being rare.[4]

CONCLUSION

Hobnail hemangioma is a rare benign vascular tumor with characteristic histopathological features. This case highlights an unusual pediatric facial presentation and emphasizes the importance of histopathological examination in establishing the diagnosis and avoiding overtreatment.

Patient Consent

Written informed consent was obtained from the patient's legal guardian for publication of clinical details and images.

Conflicts of Interest

None.

Funding

No external funding.

Ethical Statement

Written informed consent for publication was obtained from the patient's guardian. Ethical approval was not required for this single case report.

APC Acknowledgment

- I acknowledge that the journal requires Article Processing Charges (APCs) upon acceptance and agree to comply.
- This case is clinically relevant due to its rarity and potential for misdiagnosis, and we believe it will be of interest to dermatologists and dermatopathologists.

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