Quiz

# Purplish plaques on the leg of a 12-year-old boy

A 12-year-old boy presented with a few purple skin lesions over his right leg. These lesions were present since birth and had progressively increased in size and number. Recurrent bleeding from the affected areas following trivial injury prompted his parents to seek medical advice. Examination revealed purple-colored, firm, non-compressible, non-tender, non-pulsatile plaques with verrucous surface and focal crusting, arranged linearly over the posterior aspect of his right leg. The plaques were of varying size and showed coalescence at places [Figure 1]. There was no regional lymphadenopathy. Both lower limbs were equal in size and no bony abnormality was detected on X-ray of the legs. Systemic examination was normal. An incisional biopsy specimen was obtained from the lesional skin [Figures 2-4].

## WHAT IS YOUR DIAGNOSIS?

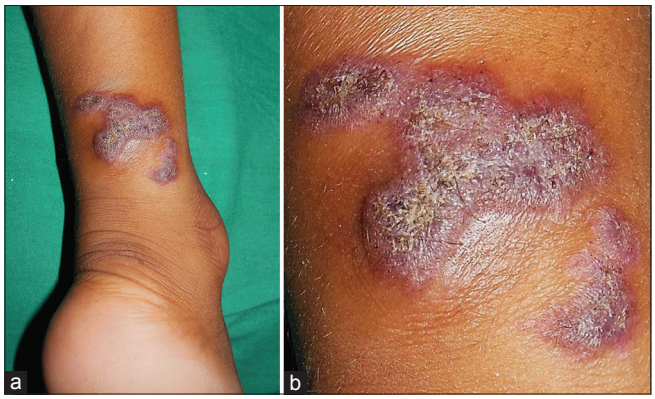


**Figure 1: (a and b) Purple-colored plaques with verrucous surface and focal crusting on the right leg**

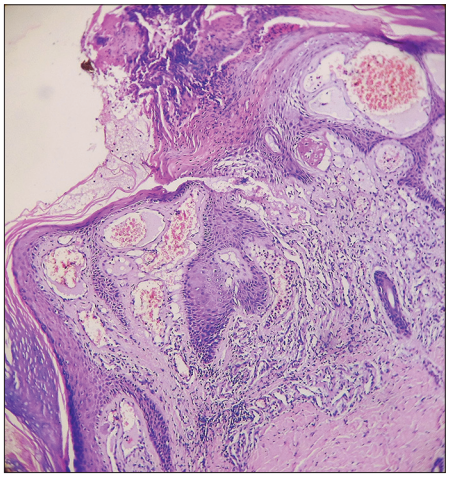

**Figure 3: Marked hyperkeratosis, acanthosis, and follicular plugging. Numerous dilated blood vessels and mixed cellular infiltrate in the upper dermis (H and E, ×100)**

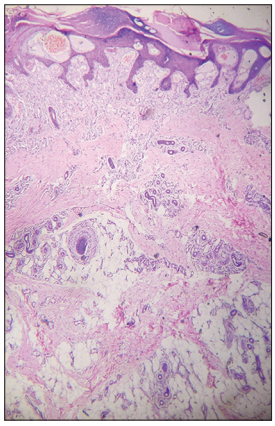

**Figure 2: Ectatic blood vessels in the papillary and reticular dermis extending into the subcutaneous tissue. The overlying epidermis showed hyperkeratosis, acanthosis, and follicular plugging (H and E, ×40)**

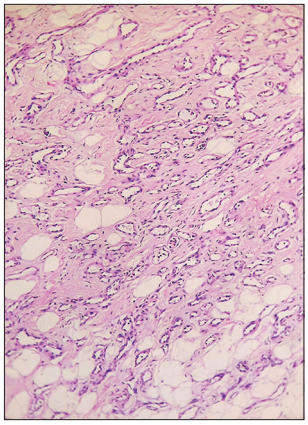

**Figure 4: Numerous dilated blood vessels in the papillary and reticular dermis extending into the subcutaneous tissue (H and E, ×400)**


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## ANSWER

### Verrucous hemangioma

Histopathological examination showed multiple dilated blood vessels in both the papillary and reticular dermis which also extended into the subcutaneous tissue. The overlying epidermis showed marked hyperkeratosis, acanthosis, and follicular plugging [Figures 2-4]. Based on the clinical and histological features, a diagnosis of verrucous hemangioma was made.

Verrucous hemangioma is a rare, congenital, localized, vascular malformation. Loria *et al*. described this entity in 1958 while Imperial and Helwig coined the term "verrucous hemangioma."[1,2]

Verrucous hemangioma is often located on the lower extremities.[1,2] The initial lesions are bluish-red in color which later becomes more hyperkeratotic.[3] Satellite nodules may develop. An eruptive form associated with disseminated cutaneous lesions and a linear variant have also been described.[4] Secondary bacterial infection, bleeding, pain, and ulceration are the common complications.[1] Clinically, they may resemble angiokeratoma circumscriptum, lymphangioma circumscriptum, and verrucous epidermal nevus, among others. Angiokeratoma circumscriptum is the closest differential diagnosis of verrucous hemangioma.[1,2] However, in contrast to angiokeratoma circumscriptum, verrucous hemangioma appears at birth or in the early childhood.[1,2] Histologically, the former only involves the papillary dermis while in the latter, the blood vessels extend into the deep dermis and subcutaneous fat.[2,3] This difference between the two entities emphasizes the importance of a biopsy of sufficient depth. Currently, no specific immunohistochemical marker exists for verrucous hemangioma and the diagnosis should be made after careful clinicopathological correlation.[5] Although erythrocyte-type glucose transporter protein-1 (GLUT1) is expressed most commonly by the vascular endothelial cells in infantile hemangioma, verrucous hemangioma may also display endothelial immune-reactivity for GLUT1.[5] D2-40, a marker of lymphatic endothelium, is negative.[4,5]

Verrucous hemangiomas do not involute spontaneously. Surgery effectively treats this condition with a variable recurrence rate. When the surface area is extensive and it is too large to resect, laser therapy may be considered. Pulsed dye laser attenuates superficial lesions and neodymium-doped yttrium aluminum garnet (Nd-YAG) laser holds promise over the $CO_2$ laser for extensive verrucous hemangiomas. A combined approach using surgery and laser also showed good results.[2,3]

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## REFERENCES

1. Garrido-Ríos AA, Sánchez-Velicia L, Marino-Harrison JM, Torrero-Antón MV, Miranda-Romero A. A histopathologic and imaging study of verrucous hemangioma. Actas Dermosifiliogr 2008;99:723-6.
2. Yasar A, Ermertcan AT, Bilac C, Bilac DB, Temiz P, Ozturkcan S. Verrucous hemangioma. Indian J Dermatol Venereol Leprol 2009;75:528-30.
3. de França ER, Gurgel A, Campos T, Souza JA, França K, Azevedo R. Verrucous hemangioma. An Bras Dermatol 2006;81:S290-2.
4. Weedon D. Skin Pathology. 3rd ed. Philadelphia: Churchill Livingstone-Elsevier; 2010.
5. Clairwood MQ, Bruckner AL, Dadras SS. Verrucous hemangioma: A report of two cases and review of the literature. J Cutan Pathol 2011;38:740-6.