

A Case of Hobnail Hemangioma

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Hobnail hemangioma(HH) is a benign acquired vascular tumor of endothelial origin which should be differentiated from other malignant vascular neoplasm such as Kaposi's sarcoma or angiosarcoma. We report a case of hobnail hemangioma in a 21-year-old woman who had a dusky-red patch on her left shin. Histologically, ectatic vascular channels with a single layer of plumped endothelial cells were seen and the vascular channels seemed to dissect the collagen bundles. She underwent treatment with surgical excision with primary closure.

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Key Words : Hobnail hemangioma

Hobnail hemangioma(HH) is a rare benign vascular endothelial neoplasm, but should be differentiated from other malignant vascular neoplasms such as patch stage Kaposi's sarcoma or angiosarcoma. Clinically, it usually appears as a single patch or nodule. Microscopic characteristics are hobnail endothelial cells with prominent hyperchromatic nuclei and dissection of collagen pattern. We report a case of HH, which shows typical morphologic and histologic findings, but, has recurrence unlike previous reports.

CASE REPORT

A 21-year-old woman was presented with a dusky-red patch on her left shin. She noticed the lesion five weeks ago. There was no

primitive lesion or trauma history. Examination disclosed a well-demarcated but irregularly bordered patch, 1.2cm in diameter (Fig. 1). Histologic examination disclosed ectatic vascular channels with a single layer of plumped endothelial cells and occasional intraluminal papillary projections in the upper dermis (Fig. 2). Deeper in the dermis, the vascular channels were thinner and seemed to dissect the collagen bundles. Other findings included numerous extravasated erythrocytes and mild perivascular lymphocyte infiltrates and a few hemosiderin-laden macrophages. Immunohistochemistry with monoclonal antibodies revealed a mild focal positive reaction with FactorVIII related antigen, and a negative reaction with Ulex europaeus agglutinin I, but a strongly positive reaction with CD34 (Fig. 3). The patient underwent treatment with complete surgical excision with primary closure. Two years later, recurrence was observed in the shin.

DISCUSSION

Hobnail hemangioma(HH) is a relatively rare benign acquired vascular tumor of endothelial origin. Typically, the tumor arises in young adults with an almost equal proportion

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in men and women, but it may affect all age groups. It has a predilection for extremities, but can occur at any site of the body. Clinically, it appears usually as a single, small, well-demarcated patch or nodule¹. Histologically, characteristic features are small size, hobnail endothelial nuclei, superficial dilated blood vessels, progressive disappearance of the lesion into the reticular dermis and dissection of collagen^{1,2}. Targetoid hemosiderotic hemangioma has in addition to the same histologic appearance as HH, a



Fig. 1. Dusky-red patch on the left shin.

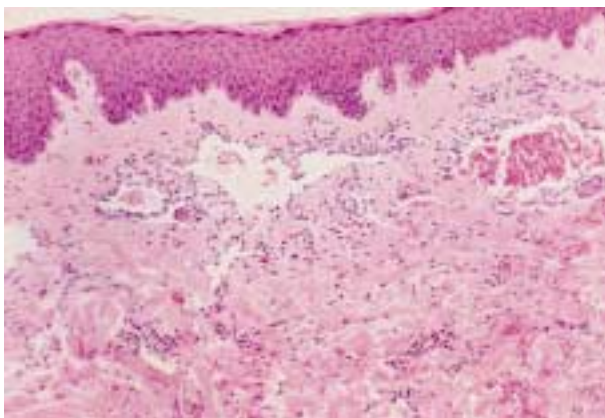


Fig. 2. Ectatic vascular channels with a single layer of plumped endothelial cells in the superficial dermis (H & E, $\times 100$).

marked deposition of hemosiderin. Clinically, the characteristic targetoid appearance is due to peripheral hemorrhage and the subsequent deposition of hemosiderin³. But, Calonje proposed that HH is the more appropriate descriptive morphologic term regardless of the targetoid appearance or marked hemosiderin deposition².

The main microscopic differential diagnosis is for the patch stage of Kaposi's sarcoma (KS), which shares many similarities with HH. Factors favoring patch stage KS are the presence of plasma cells, spindle-shaped cells and apoptotic endothelial cells⁴. Other differential diagnoses include progressive lymphangioma, lymphangioma-like variants of KS, well-differentiated angiosarcoma (AS), and retiform hemangioendothelioma. Progressive lymphangioma can be distinguished by its large size and lack of superficial "hobnailed" endothelial cells^{5,6}. In lymphangioma-like variants of KS, it occurs mainly in older persons and possesses the less extravasated erythrocytes⁷. Well-differentiated AS occurs predominantly in head and neck, and one can find less well differentiated areas with thorough examination⁸. Retiform hemangioendothelioma has the same hobnail endothelial nuclei as the unique hobnail endothelial nuclei of HH, but has a retiform pattern of distribution². HH can be adequately treated by simple surgical excision without tendency to recur¹. In our case, the

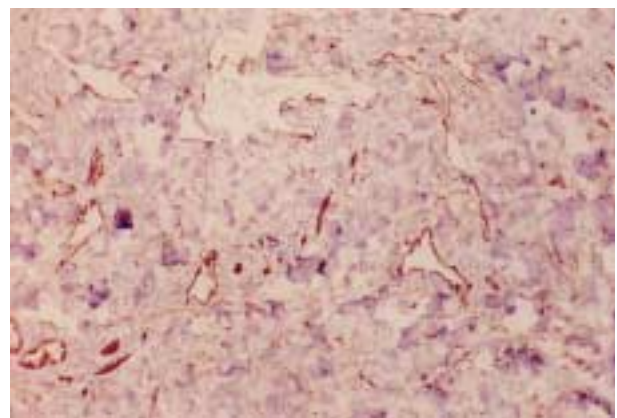


Fig. 3. Positive reaction with CD34 monoclonal antibody ($\times 100$).

lesion was treated under complete excision and primary closure. But, two years later, recurrence was observed in the vicinity of the original lesion.

HH is thought to be originated from vascular endothelium³. Factor VIII-related antigen has been reported as weakly positive; Ulex europaeus agglutinin has been strongly positive⁹ or rarely positive¹. CD34 is a very sensitive marker for the vascular endothelium, and showed variable reactivity for endothelial cells of HH^{1,3}. In our case, immunohistochemistry revealed a mild focal positive reaction with Factor VIII related antigen, and a negative reaction with Ulex europaeus agglutinin I, but a strongly positive reaction with CD34. These results imply that the origin of HH is vascular endothelial cells, not lymphatic endothelial cells.

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