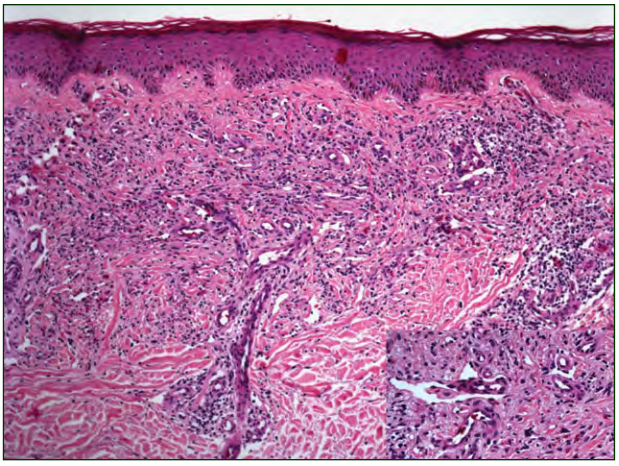
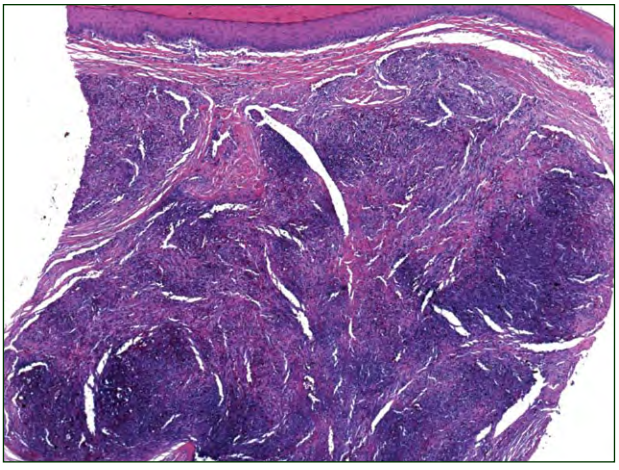


H&E, original magnification ×100 (original magnification ×200 [inset in bottom right corner]).



H&E, original magnification ×40.

The best diagnosis is:

a. acroangiodermatitis
b. angiosarcoma
c. Kaposi sarcoma
d. leukocytoclastic vasculitis
e. targetoid hemosiderotic hemangioma

PLEASE TURN TO PAGE 123 FOR DERMATOPATHOLOGY DIAGNOSIS DISCUSSION

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The author reports no conflict of interest.
The views expressed in this article are those of the author and do not reflect the official policy or position of the US Department of the Navy, US Department of Defense, or the US Government.
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Kaposi Sarcoma

Kaposi sarcoma is a virally induced, low-grade angiosarcoma. It was initially described in 1872 and subsequently categorized into 4 clinicopathologic subtypes: classic/sporadic, endemic (African), epidemic (AIDS associated), and immunosuppressant therapy associated.[1] Lesions typically progress from patches to plaques and finally to a nodular stage. Histologic findings vary depending on the stage. In the patch stage, findings can be subtle with a busy dermis appearance at low power (ie, the dermis focally appears hypercellular on scanning magnification and is not due to the usual inflammatory infiltrate)(Figure 1).[1,2] On closer inspection, one can observe newly

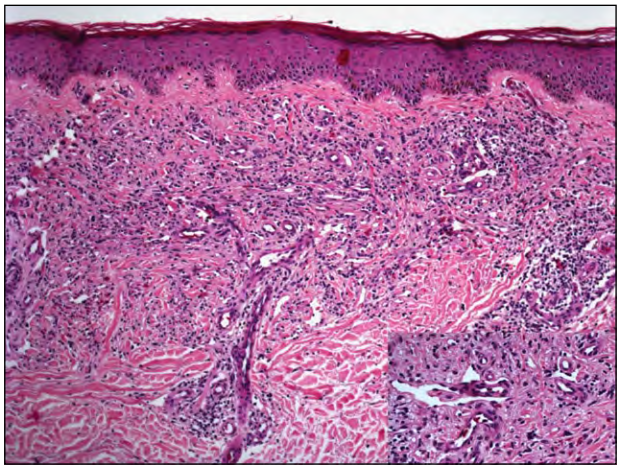

Figure 1. Patch stage of Kaposi sarcoma with a busy dermis composed of irregular vascular channels, inflammatory cells, and extravasated erythrocytes (H&E, original magnification ×100). Jagged vascular spaces that partly surround preexisting blood vessels and adnexa also can be observed, resulting in the promontory sign (H&E, original magnification ×200 [inset in bottom right corner]).

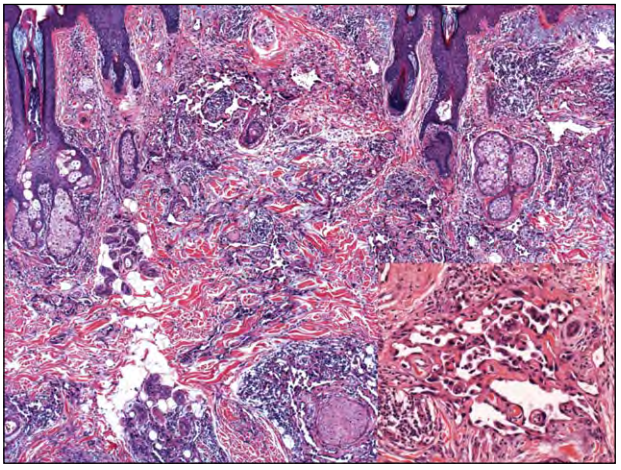

Figure 3. Jagged blood vessels with plump hyperchromatic endothelial cells dissecting between collagen bundles characteristic of angiosarcoma (H&E, original magnification ×40). The inset (bottom right corner) provides a closer view of the intraluminal projections often seen in angiosarcoma (H&E, original magnification ×100).

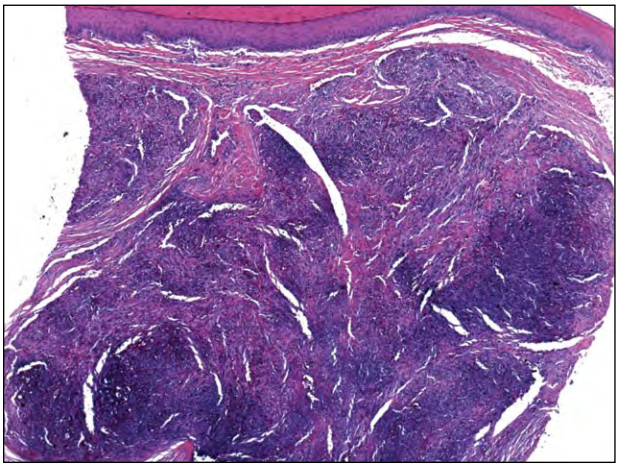

Figure 2. Nodular stage of Kaposi sarcoma with spindle cells arranged in tight fascicles with slitlike spaces containing erythrocytes (H&E, original magnification ×40).

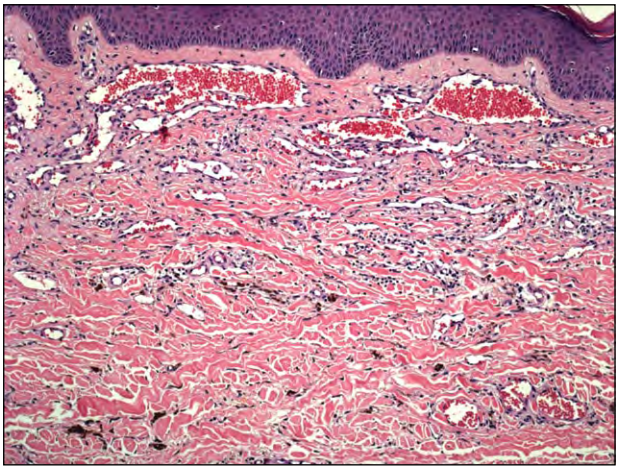

Figure 4. Targetoid hemosiderotic hemangioma with ectatic vessels in the superficial dermis, below which are slitlike vascular channels and hemosiderin (H&E, original magnification ×100).

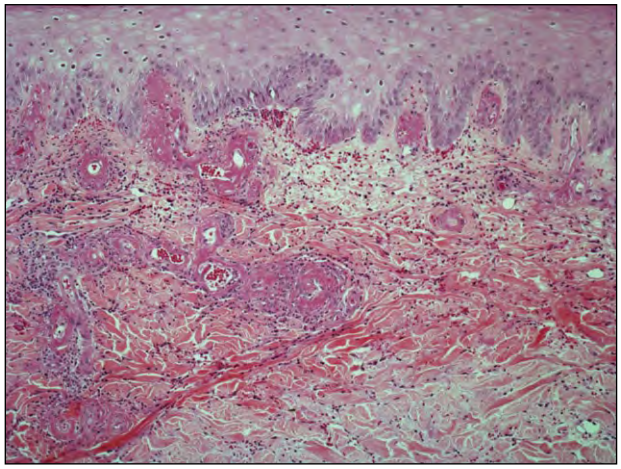

Figure 5. Superficial perivascular infiltrate composed of neutrophils, karyorrhexis, extravasated erythrocytes, and fibrin deposition characterizes leukocytoclastic vasculitis (H&E, original magnification ×100).

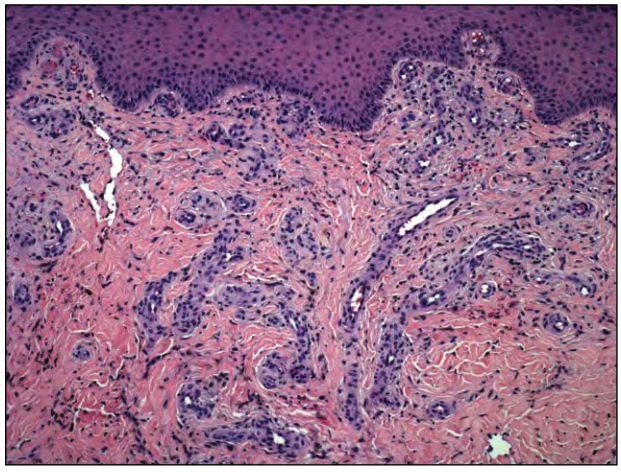

Figure 6. Proliferation of small blood vessels with plump endothelial cells embedded in an edematous stroma associated with extravasated erythrocytes and hemosiderin characterizes acroangiodermatitis (H&E, original magnification ×100).

formed jagged vascular spaces partly surrounding preexisting blood vessels and adnexa, resulting in the characteristic promontory sign (Figure 1 [inset]). Within the intervening dermis there are slitlike spaces lined by banal endothelial cells and extravasated erythrocytes. The lesion is associated with a variable inflammatory infiltrate composed of lymphocytes, plasma cells, and hemosiderin-laden macrophages. In the plaque stage, there is greater cellularity with numerous poorly defined, dissecting vascular channels containing erythrocytes admixed with haphazardly arranged fascicles of spindle cells. Eosinophilic hyaline globules, possibly derived from effete erythrocytes, are best appreciated with a periodic acid–Schiff stain within spindle cells or extracellularly.[1] In the nodular stage, spindle cells arranged in tight fascicles associated with slitlike spaces containing erythrocytes expand the dermis (Figure 2). Often adjacent to the nodular component is a focal area reminiscent of the plaque stage, supporting the notion of a morphologic continuum between the stages.[1] Human herpesvirus 8 has been detected in all forms of Kaposi sarcoma, confirmed by positive nuclear staining with latent nuclear antigen 1.

Angiosarcoma is another vascular tumor composed of jagged blood vessels; however, it is a high-grade malignancy with vascular channels lined by crowded hyperchromatic endothelial cells with varying degrees of atypia (Figure 3). Papillary processes often extend into the lumen of the vessel (Figure 3 [inset]). In targetoid hemosiderotic hemangioma, there are ectatic vascular channels lined by plump endothelial cells in the superficial aspect of the lesion below which are slitlike vascular channels associated with extravasated erythrocytes and hemosiderin (Figure 4). Leukocytoclastic vasculitis presents as a superficial perivascular neutrophilic infiltrate associated with karyorrhexis, extravasated erythrocytes, and fibrin deposition (Figure 5). Acroangiodermatitis consists of a proliferation of small blood vessels with plump endothelial cells embedded in an edematous dermis associated with extravasated erythrocytes and hemosiderin (Figure 6).

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