appropriate referrals, and offer information about skin cancer prevention.

Rob Turrisi, PhD
Holly Gunn, MD
Brittney Hultgren, BA
Nichole Warner, MD
Kimberly A. Mallett, PhD

Accepted for Publication: April 6, 2012.
Author Affiliations: Prevention Research Center/Department of Biobehavioral Health (Drs Turrisi and Mallett and Ms Hultgren), Department of Dermatology, Milton S. Hershey Medical Center (Drs Gunn and Warner), The Pennsylvania State University, State College.

Correspondence: Dr Turrisi, Prevention Research Center, The Pennsylvania State University, 204 E Calder Way, Ste 208, State College, PA 16801 (rturrisi@psu.edu).

Author Contributions: Dr Turrisi had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis. Study concept and design: Turrisi, Gunn, Warner, and Mallett. Acquisition of data: Gunn, Warner, and Mallett. Analysis and interpretation of data: Turrisi, Gunn, Hultgren, Warner, and Mallett. Drafting of the manuscript: Turrisi, Gunn, Hultgren, and Warner. Critical revision of the manuscript for important intellectual content: Turrisi, Gunn, and Hultgren. Statistical analysis: Turrisi. Obtained funding: Turrisi and Gunn. Administrative, technical, and material support: Turrisi, Gunn, and Warner. Study supervision: Gunn.

Financial Disclosure: None reported.

Funding/Support: Funding was provided by the Pennsylvania State University Children, Youth, and Family Consortium.


Dermoscopic Rainbow Pattern in Kaposi’s Sarcoma Lesions: Our Experience

Cheng et al1 were the first to define the multicolored areas in some Kaposi’s sarcoma (KS) lesions observed under polarized-light dermoscopy as rainbow pattern and to describe this dermoscopic feature as specific but not sensitive for the diagnosis of KS. Their observation prompted several interesting discussions in the dermoscopic literature.2-4 In our clinical practice, we have observed a high number of classic KS (CKS) cases.5 Dermoscopic examination of all the KS lesions in a group of patients with CKS was performed to evaluate the sensitivity of the rainbow pattern feature observed in the different clinical types of KS lesions.

Methods. Twenty patients with CKS who tested negative for human immunodeficiency virus agreed to participate, and approval by the human subjects committee was not required. In all cases, the diagnosis of CKS had been determined histologically and confirmed by histochemical staining for human herpesvirus, type 8. All patients had multiple skin lesions, including macules, papules, nodules, and bullae, localized to the lower and upper limbs.

Results. The lesions (n=222) were examined using a contact polarized-light dermoscope device (PRO HR II; DermLite) connected to a Nikon digital camera. Macular lesions, which were the most common (n=183), consistently showed a homogeneous dermoscopic pattern (Figure 1), varying in color from pink to mauve, with no rainbow pattern. Histologically, these lesions showed a large number of widely dilated, thin-walled blood vessels in the upper half of the reticular dermis, sparse spindle-shaped cells between collagen bundles, and moderate infiltration of lymphocytes and plasma cells.

The blister lesions (n=4) also showed a homogeneous dermoscopic pattern and appeared pink with no rainbow pattern. Histologically, these lesions were characterized by the presence of extensive bulla-like areas, wide vascular distentions with thin walls, depleted erythrocytes, and sparse spindleshaped elements.

Twenty-five of the 35 papular and nodular lesions examined dermoscopically had multicolored areas with rainbow patterns of varying intensity and dimensions.

Figure 1. Homogeneous pattern in macular Kaposi’s sarcoma lesion.
(Figure 2) (71%). Histologically, these lesions showed thin-walled blood venules in the papillary and reticular dermis, numerous spindle cells arranged in fascicles and interwoven with erythrocytes into a virtual slit, and variable quantities of extravasal erythrocytes, hemosiderin, and lymphoplasmacytic cellular infiltrate. All specimens from lesions with the rainbow pattern showed numerous hyaline globule aggregates.

Comment. This study indicates that only papular- or nodular-type lesions show the rainbow pattern under polarized-light dermoscopy and that the pattern is completely absent in macular and bullalike lesions. Considering that maculae are the most common lesions in KS, these results might offer an explanation for the poor sensitivity (36.2%) of the rainbow pattern in detecting KS reported by Hu et al, particularly if the researchers failed to specify the clinical characteristics of all KS lesions observed dermoscopically (ie, macules, papules, or nodules).

Histologic examination of lesions showing the rainbow pattern confirmed the phenomenon described by Hu et al regarding the consistent presence of spindle-like cells formed into bundles interweaving around irregularly shaped vascular spaces of varying sizes. On the other hand, wide variability was observed in the quantity of red blood cells, hemosiderin, and inflammatory infiltrate in different specimens of lesions that showed the rainbow pattern.

The presence of abundant hyaline globules was consistently observed in all lesions with the rainbow pattern. Hyaline bodies in KS are an often-neglected histologic feature that may not be clearly visible in hematoxylin-eosin-stained sections but are obvious under fluorescence microscopy as yellow-green bodies. Hyaline globules are generally round, varied in size, and arranged in clusters of 10 to 20 in cells with plump nuclei and clear, abundant cytoplasm. Numerous hypotheses have been proposed to explain the nature of these bodies. Their peculiar structure and refraction characteristics might contribute to the optic phenomenon producing the dermoscopic rainbow pattern that has been observed in KS lesions.

Lonely Hair Sign: Not Specific for Frontal Fibrosing Alopecia

While lonely hairs growing anterior to the frontoparietal hairline and in the preauricular region are markers of frontal fibrosing alopecia, they also are present with any type of scarring alopecia. Isolated hairs are present at the edges of disease progression and in the center of the patches of scarring alopecia with lymphocytic infiltrate as in lupus, follicular keratosis spinulosa decalvans, central centrifugal

Figure 1. Lonely hair in the center of a plaque of cicatricial alopecia in lichen planus.

Figure 2. Rainbow pattern in nodular Kaposi’s sarcoma lesion.