

Vascular Clues on Dermoscopy Can Aid Diagnosis

ARTICLES BY SHARON WORCESTER
Southeast Bureau

ORLANDO — Vascular structures visualized on dermoscopy aid in the diagnosis of both benign and malignant nonpigmented tumors of the skin, Dr. Brian Katz said at the annual meeting of the Florida Society of Dermatologic Surgeons.

In fact, associated vasculature should be evaluated carefully to avoid missing a malignancy, said Dr. Katz of Mount Sinai Medical Center, Miami Beach.

When using conventional dermoscopy for nonpigmented lesions, be careful about the amount of



Dermoscopy of a malignant neoplasm reveals multiple arborizing vessels on a pink, white shiny background.

pressure applied because a blanching of the vessels can occur and impede diagnostic efforts. Also, consider using ultrasound gel rather than alcohol with dermoscopy, he suggested, because it helps prevent compression of vessels. (See box at right.)

This is important because special morphologic types of vessels are associated with different skin tumors. Various studies show which types of vessels are suggestive of which diagnoses, he said.

In nonpigmented basal cell carcinomas, arborizing vessels are a major feature visualized on dermoscopy, and these were shown in at least one study to have a 90% positive predictive value for basal cell carcinoma. Pink-white to white shiny areas and ulcera-

tion also are characteristic in these lesions.

With superficial basal cell carcinoma, two main dermoscopic features typically are observed: shiny pink to white structureless areas and short, fine telangiectasias.

Dr. Katz discussed other types of malignant lesions, along with their associated vasculature on dermoscopy:

► Squamous cell carcinoma in situ/Bowen's disease. These lesions are characterized by glomerular vessels and scaly surface on dermoscopy.

► Squamous cell carcinoma (more invasive types). Characterized by polymorphous vessels, which are mainly glomerular or hairpin vessels and are irregularly distributed and which have a whitish halo.

► Amelanotic melanoma. Characterized by the presence of mainly dotted and linear irregular polymorphous vessels or by hairpin polymorphous vessels with milky-red globules/areas and ulceration. A whitish-pink background also may be seen on dermoscopy.

A rule of thumb is the more vessels seen, the more likely it is to be a malignant lesion, Dr. Katz said.

Vasculature visualized on dermoscopy is helpful for diagnosing benign nonpigmented lesions, including pyogenic granuloma (characterized by milky red homogenous areas separated with white intersecting lines with a white collarette at the periphery) and intradermal nevi (commlike vessels with a regular distribution throughout the lesion, a pink or pale structureless background, and sometimes pigmentary remnants).

Nonpigmented seborrheic keratosis also can be diagnosed with dermoscopy. It is characterized vasculature by regularly distributed hairpin loop vessels; dermoscopic features of keratinization; and dermoscopic features including comedolike opening, milialike cysts, sharp borders, fissures, and ridges. Yellow scaling and whitish halo also may be noted.

Other benign lesions that can be diagnosed include sebaceous hyperplasia—aggregated white to yellow central globularlike structures and surrounding, scarcely branching crown vessels at the periphery that never cross the center of the neoplasm—and Spitz nevus, which is characterized by dotted vessels, regular distribution, and a pink background, Dr. Katz said. ■

Ultrasound Gel a Better Choice in Some Situations

Research on the use of dermoscopy has shown that although alcohol is the “best all around” fluid to use for dermoscopy, ultrasound gel is a better option in some instances, Dr. Katz noted.

For examining melanonychia of the nail plate, gel works best. Similarly, for nonpigmented tumors of the skin, in which visualization of the vasculature is important for making a correct diagnosis, gel helps mitigate the effects of some of the pressure that is applied with conventional contact dermoscopy.

In a comparison of contact dermoscopy with gel

versus alcohol for a malignant melanoma, the gel clearly allowed much better visualization of the vasculature, while the alcohol allowed more compression—and thus blanching—of the vessels, he said.

The effect was strictly caused by the pressure applied, he said at the meeting, noting that pressure should be minimal with contact dermoscopy.

An option to circumvent this problem altogether is to use a polarized dermatoscope in noncontact mode, which has been shown to be the best option for visualizing blood vessels, Dr. Katz said.



Dermoscopy with ultrasound gel (left) allows for better visualization than with alcohol (right) because there is less vessel compression.

Dermoscopy's Popularity and Applications Continue to Expand

ORLANDO — The field of dermoscopy is expanding rapidly, as demonstrated both by the increase in published papers on the topic in recent years and by the increasing number of uses for the technology, Dr. Brian Katz said at the annual meeting of the Florida Society of Dermatologic Surgeons.

A recent study noted that 450 papers were published on the topic between 2000 and 2005, compared with 100 between 1987 and 1999, said Dr. Katz of Mount Sinai Medical Center, Miami Beach.

His own review of more recent literature showed that about 250 papers on dermoscopy were published in the last year alone.

Additionally, dermoscopy now is being used to predict and/or monitor treatment response in a variety of conditions.

Patients being treated with topical corticosteroids for lichen planus and psoriasis, for example, are being monitored

for early signs of atrophy, according to Dr. Katz.

It also appears that patterns seen on dermoscopy in port-wine stains of the face can predict response to pulsed dye laser treatment, Dr. Katz said.

One study of 33 children demonstrated that those with a superficial pattern involving multiple dotted or globularlike vessels were more likely to have a good response. The children with deeper patterns involving linear vessels, which were sometimes reticular in appearance, had much poorer response (Pediatr. Dermatol. 2004;21:589-96).

The study also showed that an undefined pattern on dermoscopy was an indication that no further response would be achieved with treatment. This type of

finding typically occurred after multiple treatments, and the investigators suggested it should mark the end point of treatment.

Dermoscopy has been shown to be useful in guiding resection of lentigo maligna of the head and neck.

In a study of 26 patients with lesions that clinically appeared to have an uninvolved border, dermoscopy distinguished those with an annular pattern that histologically corresponded to melanoma in situ from those with findings indicative of the melanocytic hyperplasia commonly seen in sun-damaged skin (Arch. Dermatol. 2004;140:1095-110).

More recently, dermoscopy has been reported to be useful for monitoring the

progress of patients treated with tazarotene for superficial basal cell carcinomas.

In a study of 41 patients, with slightly more than half achieving a complete response, dermoscopy showed progressive loss of dermoscopic structures over the course of treatment until the end point was achieved and all leaflike areas, arborizing vessels, and pink/white background had resolved (Dermatol. Surg. 2005;31:217-20).

In a case report published in 2006, dermoscopy was used successfully to monitor the response to imiquimod in a patient treated for lentigo maligna. Over a 12-week treatment course, progressive loss of dermoscopic features of facial lentigo maligna, such as asymmetrically pigmented hair follicle openings and rhomboidal structures around hair follicles, all had resolved (Arch. Dermatol. 2006;142:530-1). The patient was followed for 2 years with no recurrence, Dr. Katz said. ■

Patients being treated with topical corticosteroids for lichen planus and psoriasis are being monitored with dermoscopy for early signs of atrophy.