Challenging Cases

Examples of challenging cases?

1. Challenge in diagnosis
2. Challenge in monitoring an off label treatment
3. Challenge where clinical diagnosis does not match the pathology diagnosis
4. Challenge in long term management

Case 1

Teaching point

Recurrent or persistent nevi are often melanoma stimulators

In my opinion there are two types:

- Nevi that have been traumatized
- Nevi that have been biopsied and demonstrate residual pigment
Teaching point

Common locations of nevi that have been traumatized include:

Upper back
Trunk
Upper thigh of women from shaving (Dr. Kittler commented on this at AAD 2017)

Is RCM useful in the diagnosis of traumatized nevi

Yes!

Teaching point

...that benign melanocytic nevi (BMN) may display atypical histologic characteristics when traumatized.

Pagetoid spread of melanocytes was limited to the site of trauma in 20% of cases and was identified away from areas of trauma in 8% of cases. Melanocytic atypia was seen in three cases.

The second type of recurrent or persistent nevi are nevi that have been biopsied and demonstrate residual pigment.

Selim MA, Vollmer RT, Herman CM, Pham TT, Turner JW.
Teaching point

Recurrent Melanocytic Nevi and Melanomas in Dermoscopy

Results of a Multicenter Study of the International Dermoscopy Society

ONLINE FIRST
Andreas Blum, MD, JAMA Dermatol. Published online November 13, 2013. jamadermatol.2013.6908

Design, Setting, and Participants. Retrospective observational study of 15 pigmented lesion clinics from 12 countries; 98 recurrent nevi (61.3%) and 62 recurrent melanomas (38.8%) were collected from January to December 2011.

Characteristic Dermoscopic Pattern of Recurrent Nevi and Recurrent Melanomas

Recurrent Nevi
1. 30 yo (younger pts)
2. Pigment confined to scar
3. Torso
4. Time to recurrence 8 months
5. Growth pattern – centrifugal
6. Contiguous pigment

Recurrent Melanoma
1. 63 yo
2. Pigment traverses the scar’s edge
3. H&N
4. Time to recurrence 25 months
5. Growth pattern – chaotic
6. Non-contiguous pigment

The role of the cannabinoids and dermatology

What are the Cannabinoids?

They are compounds (chemical structures) that produce the effects experienced from ingesting cannabis.
What is Cannabis?

Cannabis is a genus of flowering plant in the family Cannabaceae. Three species may be recognized.

Role of Cannabis?

It has long been used for hemp fibre, for hemp oils, for medicinal purposes, and as a recreational drug.

The History of Cannabis

Cannabis was first in the list of Chinese medicines 5,000 years ago, treating pain, malaria, rheumatism & forgetfulness, under Emperor Shen Nung.

Categories of Cannabinoids?

There are four types of cannabinoids recognized by the National Institutes of Health:

- Phytocannabinoids
- Endocannabinoids:
- Synthetic cannabinoids
  "Purified natural occurring" extracts
In the late 1990s, scientific research revealed receptors in our brains for cannabinoids. These receptors were named cannabinoid 1 receptors or CB1.

Shortly thereafter, researchers demonstrated another set of receptors, mainly situated in the periphery (spleen, tonsils, and immune cells). These receptors were named cannabinoid 2 receptors or CB2.

CB2 receptors are primarily located on immune cells and tissues. When activated, they affect inflammatory and immunosuppressive activity. Control release of cytokines and cell migration.

The role of cannabinoids as anticancer agents:

Cannabinoids block tumor progression by targeting several hallmarks of cancer:

1. They impair uncontrolled cancer cell growth by inducing cancer cell death by apoptosis and by inhibiting cancer cell proliferation.
2. They hamper tumor angiogenesis by downregulating the vascular endothelial (VEGF) pathway in cancer cells.
3. They hinder metastasis by inhibiting cancer cell adhesion and migration/invasiveness through the modulation of matrix metalloproteinase 2 (MMP2), tissue inhibitor of matrix metalloproteinase 1 (TIMP1), inhibitor of DNA binding 1 (ID1) and perhaps other targets.
The role of cannabinoids in dermatology

The endocannabinoid system is known to control the proliferation, differentiation, survival, and immune competence of the integumentary organ system. Targeting and manipulating endocannabinoid balance with the intent to normalize unwarranted skin cell growth and skin inflammation might be beneficial for a variety of human skin conditions.

The cannabanoids have a promising role in the treatment of itch. They may also have anti-inflammatory properties useful for the treatment of both allergic contact dermatitis and atopic dermatitis.

Endocannabinoids, synthetic cannabinoids, and phytocannabinoids have also been shown to have antitumor effects on keratinocyte carcinoma and melanoma both in vitro and in vivo.

CB1 and CB2 receptor activation in mouse melanoma and melanoma cell lines decreased the proliferation, angiogenesis, and metastasis of melanoma through inhibition of the prosurvival protein Akt and hypophosphorylation of the pRb.

Dermatoscopic-specific facial features for melanoma

1. Slate gray to blue-gray dots/granules
2. Gray follicular openings
3. Angulated lines/ rhomboidal structures
4. Circle within a circle
5. Irregular gray/brown pigmentation between follicles
6. Dark structureless areas obscuring the follicular openings
7. Crystalline structures (Shiny white structures) (Polarized light)
8. Blue white veil

Teaching point

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Facial Patterns

Melanoma specific features:
- Slate gray to blue-gray dots/granules
- Brown-gray pigmented follicular openings
- Angulated lines/rhomboidal structures
- Circle within a circle
- Irregular perifollicular hyperpigmentation
- Dark structureless areas obscuring the follicular openings
- Chrysalis structures (Polarized light)
- Blue white veil

Melanoma specific features
Yes
- Melanoma
- LPLK
- BCC
- Pigmented AK
Facial Patterns

Melanoma specific features

Is there a fine scale to the surface? No

Are there only diffuse coarse gray dots/granules or gray dots/granules following an annular distribution without other features. No

..or are there focal gray dots/granules as well as other structures or features suggestive of a solar lentigo or a seborrheic keratosis. No

Melanoma
LPLK
Pigmented AK