Regression

Margaret Oliviero MSN, ARNP
Harold S. Rabinovitz MD

Histologically regression is characterized:
- melanosis
- fibrosis
- combination of both

Distribution: partial or focal

Dermatoscopic terminology of regression in the literature
- White scar-like areas
- Depigmented areas
- Gray-blue areas
- Gray-blue veil
- Blue-whitish veil
- Whitish Veil
- Milky way
- Blue areas
- Blue hue
- Pepper-like structures
- Regression structures

A blue white veil and regression structures have different histologic correlates!

Diagnostic significance of the blue hue in dermoscopy of melanocytic lesions: a dermoscopic-pathologic study.

Massi D, De Giorgi V, Carli P, Santucci M.

---

How do you visualize regression structures using a dermatoscope?

---

Regression structures are more clearly visualized with contact non-polarized dermoscopy
Point of interest

Regression structures are present in benign and malignant melanocytic and non-melanocytic neoplasms of the skin

Neoplasms with regression structures

- Melanoma
- Nevus
- LPLK
- Basal cell carcinoma
- Pigmented actinic keratosis
- Pigmented SCC in situ

Basal cell carcinoma

Gray dots/granules

Melanophages and fibrosis
Neoplasms with regression structures

- Melanoma
- Nevus
- LPLK
- Basal cell carcinoma
- Pigmented actinic keratosis
- Pigmented SCC in situ

Point of interest

Out of 228 non-facial melanomas, 145 showed regression:
- 83 melanomas in situ
- 56 thin melanomas Breslow depth \(\leq 0.76\text{mm}\)
- 6 invasive melanomas Breslow depth \(\geq 0.9\text{mm}\)
- 9 melanomas associated with nevi
Most melanomas with gray dots/granules were melanoma in situ or thin melanomas. The majority were diagnosed melanoma on sun-damaged skin.

Melanomas on sun-damaged skin have different dermatoscopic patterns.

Clinical and dermoscopic characteristics of melanomas on nonfacial chronically sun-damaged skin. 

Teaching point:

Different patterns
Teaching point

Different patterns
Angulated line pattern

Teaching point

Different patterns
Tan structureless areas and granularity pattern

Teaching point

Different patterns
Solar lentigo-like pattern
What is the significance of blue-gray dots/granules in the diagnosis of melanoma?

Granularity (Multiple blue gray dots)

- Small round structures
- < 0.1mm in diameter
- Blue or blue gray
- Variable distribution
- Association with different background color

Definition by Ralph Braun
Part 1
Retrospective study

- 340 biopsy proven lesions randomly chosen from database (170 melanomas matched with 170 Clark nevi) and observed for the presence of multiple blue gray dots

Statistically, the diagnosis of melanoma was higher in the presence of:
- granularity
- granularity at the periphery
- irregularly distributed granularity
- granularity in association with red and white color

Part II
Prospective study

- 3773 lesions
- 41 lesions showed granularity (1.08%)

If granularity is seen, it is 107 times more likely that the lesion is a melanoma than nevus.

However, a nevus with regular granularity that only involves a small portion of the lesion and does not have other dermoscopic criteria for melanoma, does not require surgical removal.

Neoplasms with regression structures

- Melanoma
- Nevus
- LPLK
- Basal cell carcinoma
- Pigmented actinic keratosis
- Pigmented SCC in situ
Nevi with regression structures
- Atypical melanocytic nevus (high grade dysplastic, Clark nevus with unusual features)
- Traumatized nevus
- Halo nevus
- Persistent or recurrent nevus

Point of interest
- Clinically and dermoscopically, atypical melanocytic nevi are often indistinguishable from early melanoma.
- Histologically they are difficult for the pathologist.
Point of interest

- Traumatized nevi can show focal regression
- Most frequent site: the upper back and areas of friction (in our experience)

Nevi with regression structures

- Atypical melanocytic nevus (high grade dysplastic, Clark nevus with unusual features)
- Traumatized nevus
- Halo nevus
- Persistent or recurrent nevus

Point of interest

A halo nevus can show focal regression with central gray dots/granules surrounded by symmetrical depigmentation
Nevi with regression structures

- Atypical melanocytic nevus (high grade dysplastic, Clark nevus with unusual features)
- Traumatized nevus
- Halo nevus
- Persistent or recurrent nevus

Point of interest

- A persistent or recurrent nevi may show gray dots/granules
- Additional features: radial lines, symmetry, centrifugal growth pattern, and pigmentation confined to the scar

Neoplasms with regression structures

- Melanoma
- Nevi
- LPLK
- Basal cell carcinoma
- Pigmented actinic keratosis
- Pigmented SCC in situ
Lichen planus like keratosis is the great masquerader.
The middle and late stages simulate melanoma on sun-damaged skin.

Neoplasms with regression structures:
- Melanoma
- Nevi
- LPLK
- Basal cell carcinoma
- Pigmented actinic keratosis
- Pigmented SCC in situ

Gray dots/granules are rarely seen in BCC.
More common: fine brown dots in focus.
In addition to regression: look for other BCC features to make a diagnosis.
Neoplasms with regression structures

- Melanoma
- Nevi
- LPLK
- Basal cell carcinoma
- Pigmented actinic keratosis
- Pigmented SCC in situ

Point of interest

- Gray dots/granules can be seen in facial and non-facial pigmented actinic keratosis
- Look for features of a lentigo with shiny white structures particularly rosettes

Neoplasms with regression structures

- Melanoma
- Nevi
- LPLK
- Basal cell carcinoma
- Pigmented actinic keratosis
- Pigmented SCC in situ
Gray dots/granules can be seen in facial and non-facial pigmented SCC in situ.
Features of a lentigo with shiny white lines/structures particularly rosettes
Additional features of a pigmented SCC in situ: vessels as red dots or coils

Thank you for your attention!