

# Classical Approach

- Dermoscopic criteria
- Pattern analysis

# Dermoscopic Criteria

- Introduction
- Global features
- Local features

# Introduction

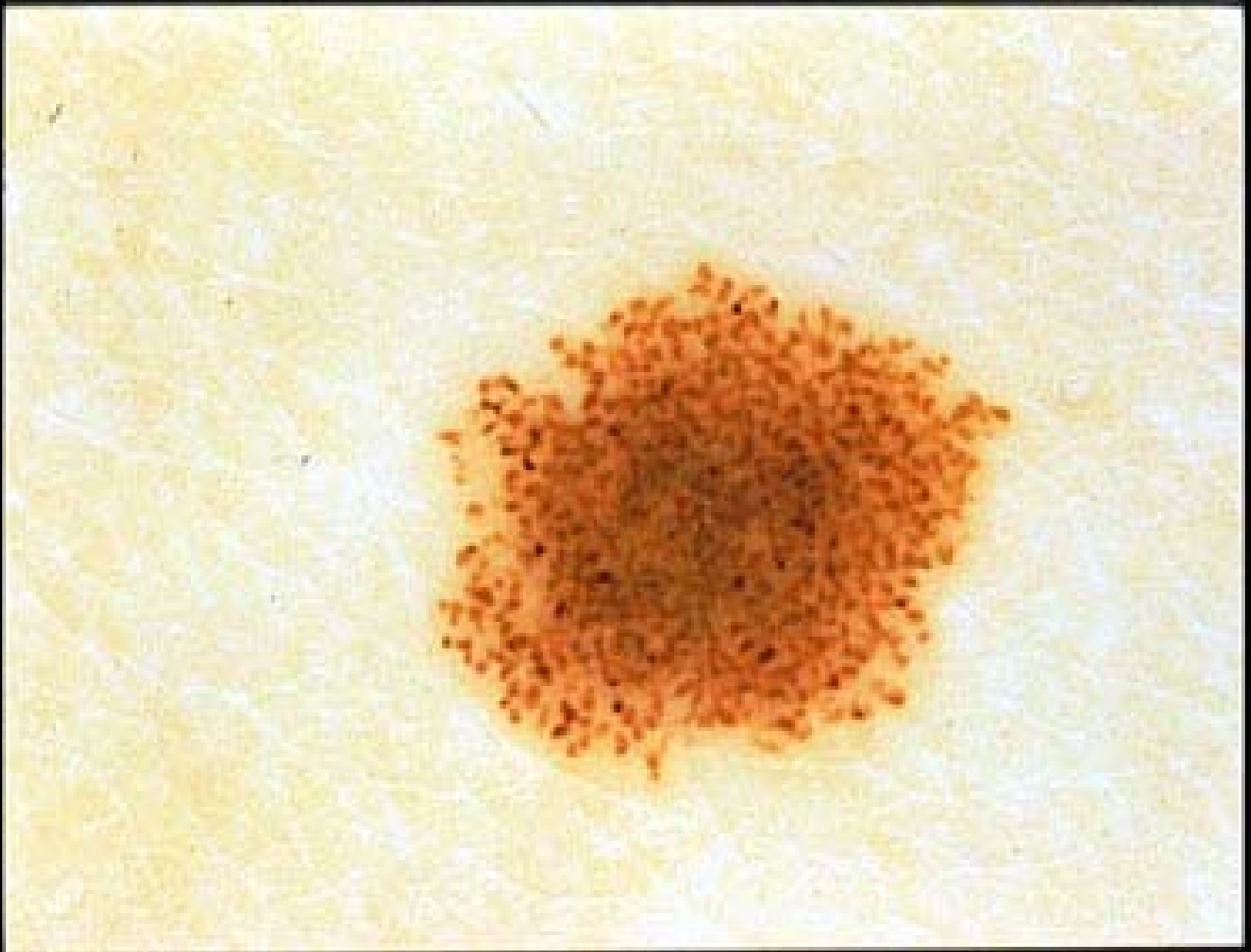
- Backbone for the morphologic diagnosis of pigmented skin lesions
- “Conditio sine qua non” for learning and understanding dermoscopy
- Yield a basic source for further studies

# Global Features -- I

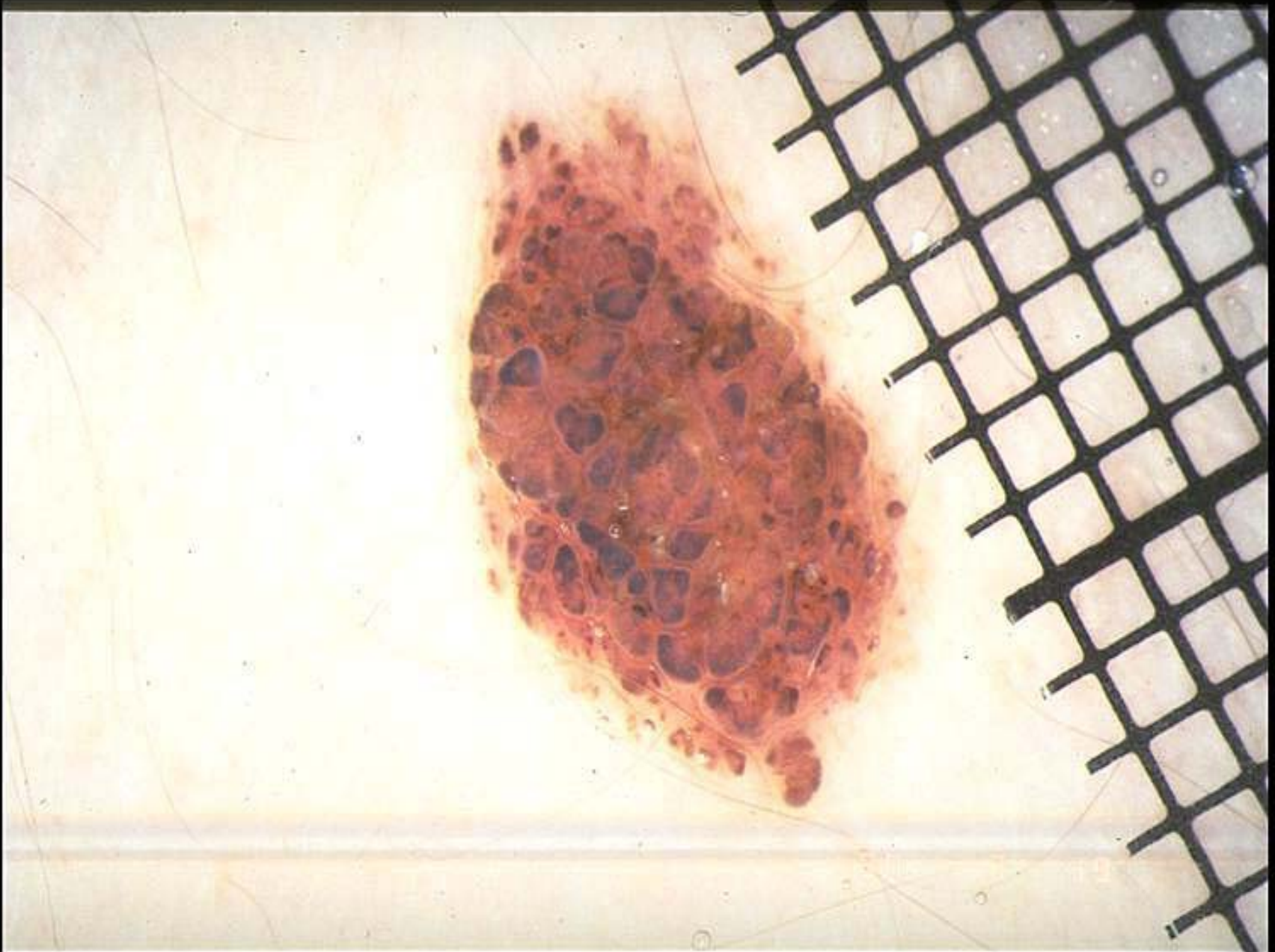
- Reticular pattern
- Globular pattern
- Cobblestone pattern
- Homogenous pattern
- Starburst pattern



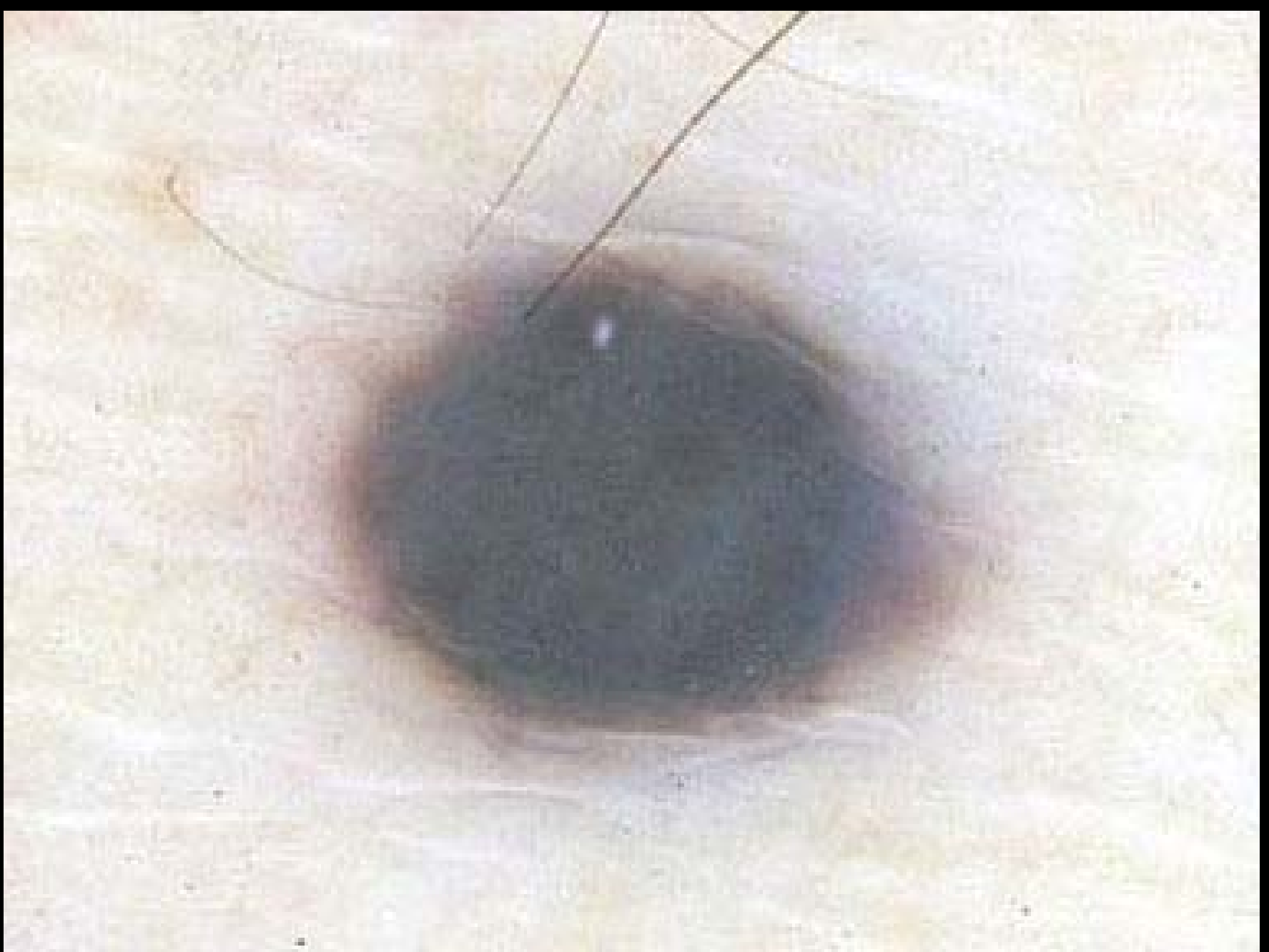
Reticular pattern is typical for many variations of acquired melanocytic nevi (e.g.: Clark nevi)



Globular pattern is present in a few types of acquired melanocytic nevi (e.g.: Clark nevi)



Cobblestone pattern is usually found in papillomatous (Unna) nevi and congenital nevi



Homogeneous pattern, particularly with a bluish hue, is stereotypical for blue nevus



The starburst pattern is the dermoscopic hallmark of pigmented spindle cell nevus (Reed/Spitz)

# Global Features -- II

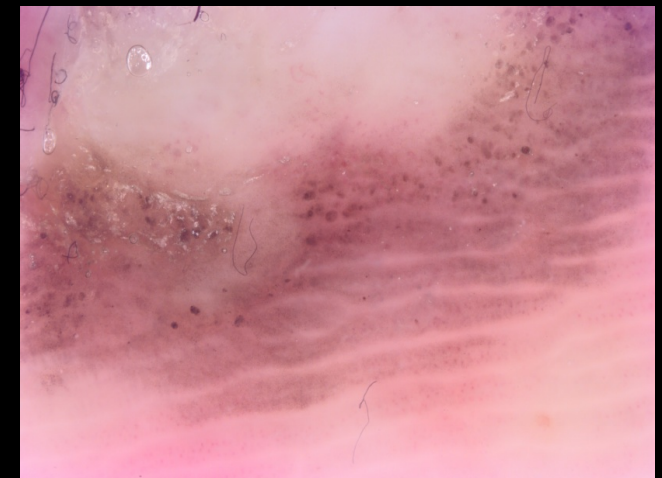
- Parallel pattern
- Multicomponent pattern
- Lacunar pattern
- Unspecific pattern



Parallel pattern in its various expressions is found in acral lesions

# Acral Melanocytic Lesions

- Parallel furrow pattern
  - Sign for acral nevus
- Parallel ridge pattern
  - Sign for acral melanoma





Multicomponent pattern is usually present in melanoma but also in basal-cell carcinoma



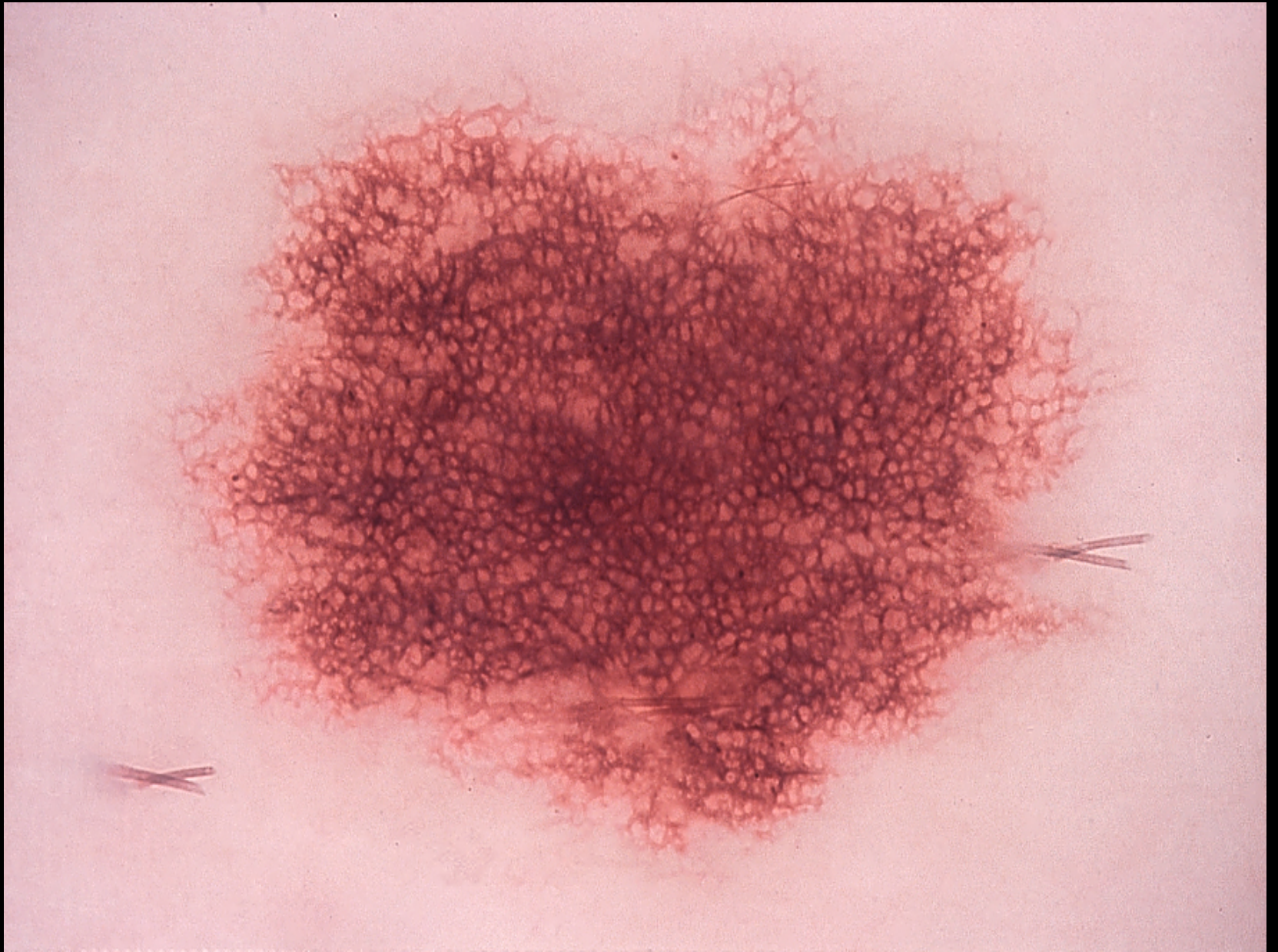
Lacunar pattern is commonly found in angiomatic skin lesions



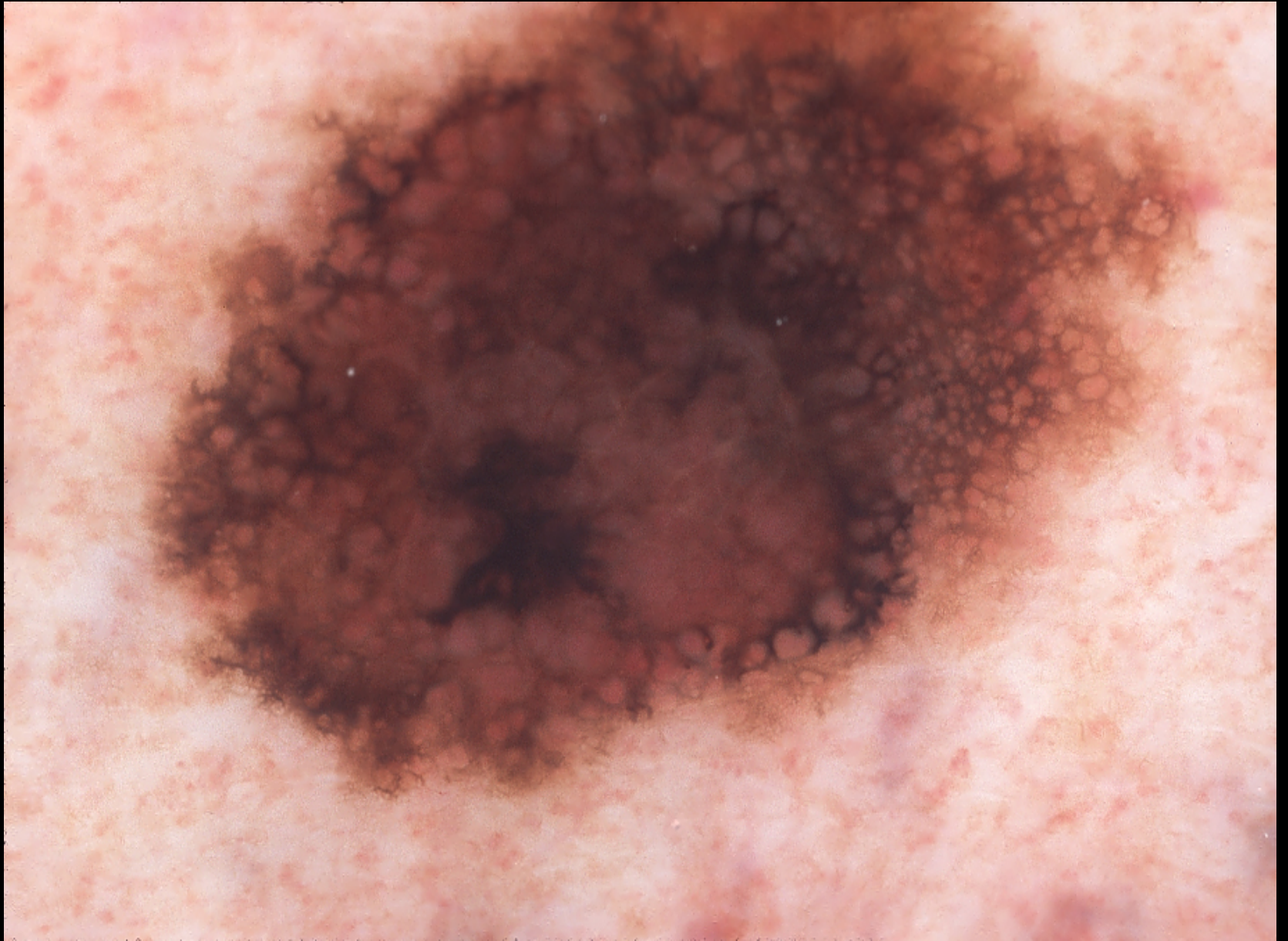
Unspecific pattern may be a clue for the diagnosis of the so-called featureless melanoma

# Local Features -- I

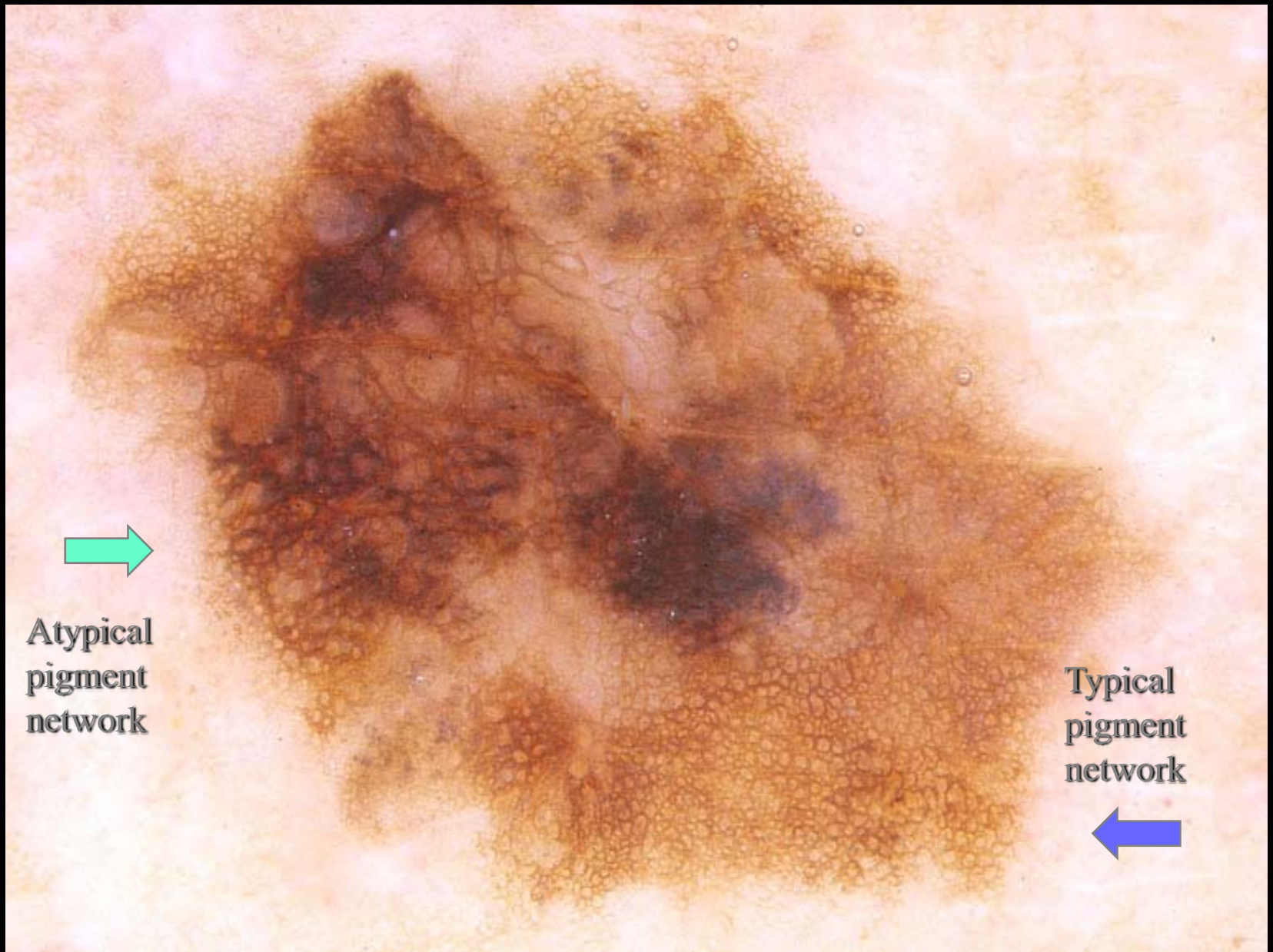
- Pigment network
- Dots and globules
- Streaks
- Blue-whitish veil



Typical pigment network in a benign acquired nevus (reticular nevus)



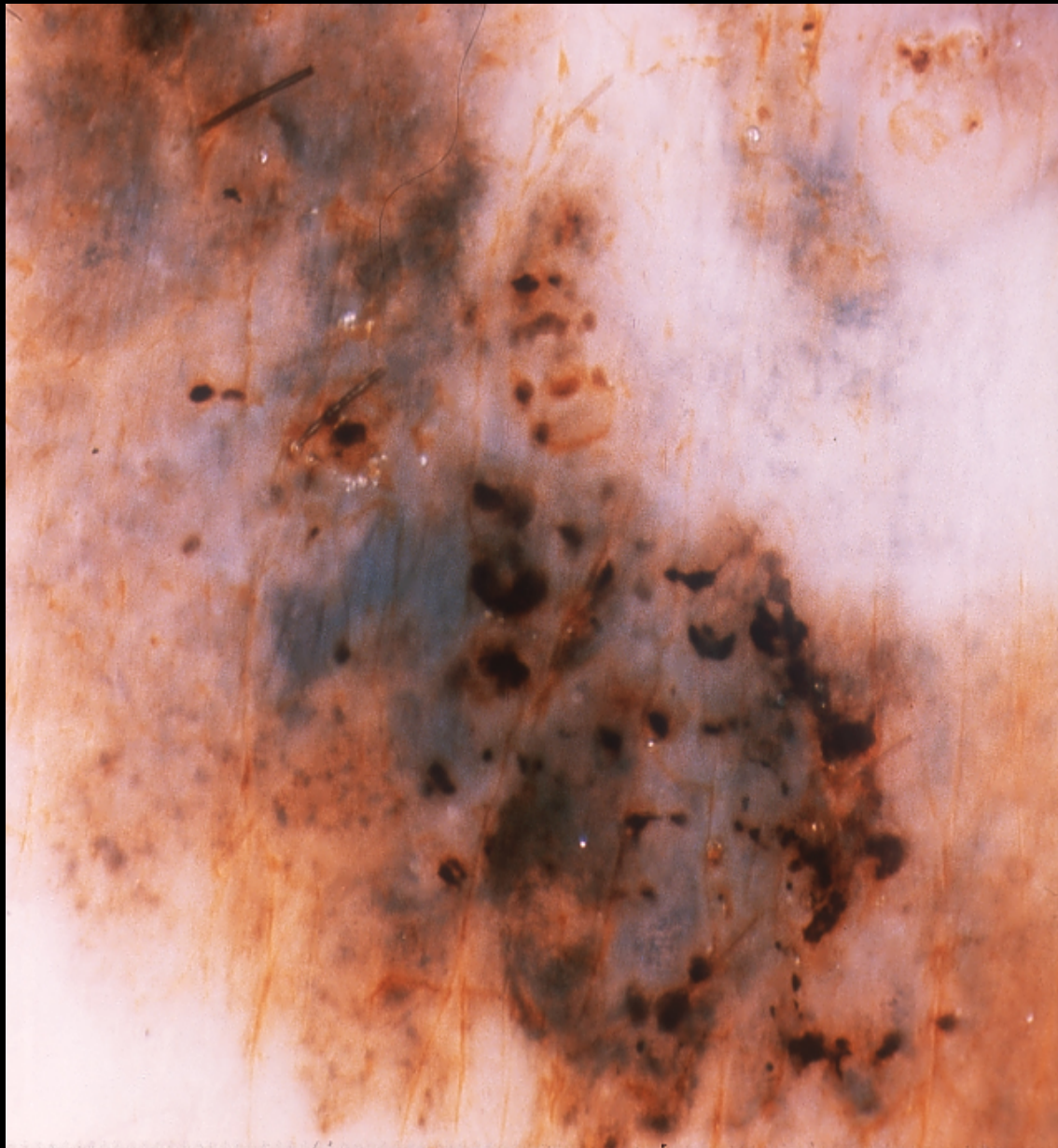
Atypical pigment network in a melanoma in situ



Melanoma in situ arising within a pre-existing melanocytic nevus

# Pigment Network

- Typical pigment network
  - ⇒ Common finding in Clark nevi, but many variations on the theme
  - ⇒ Delicate network also in lentigo simplex, solar lentigo and dermatofibroma
- Atypical pigment network
  - ⇒ Dermoscopic criterion with high specificity for the diagnosis of melanoma



Irregular black dots/globules within a melanoma



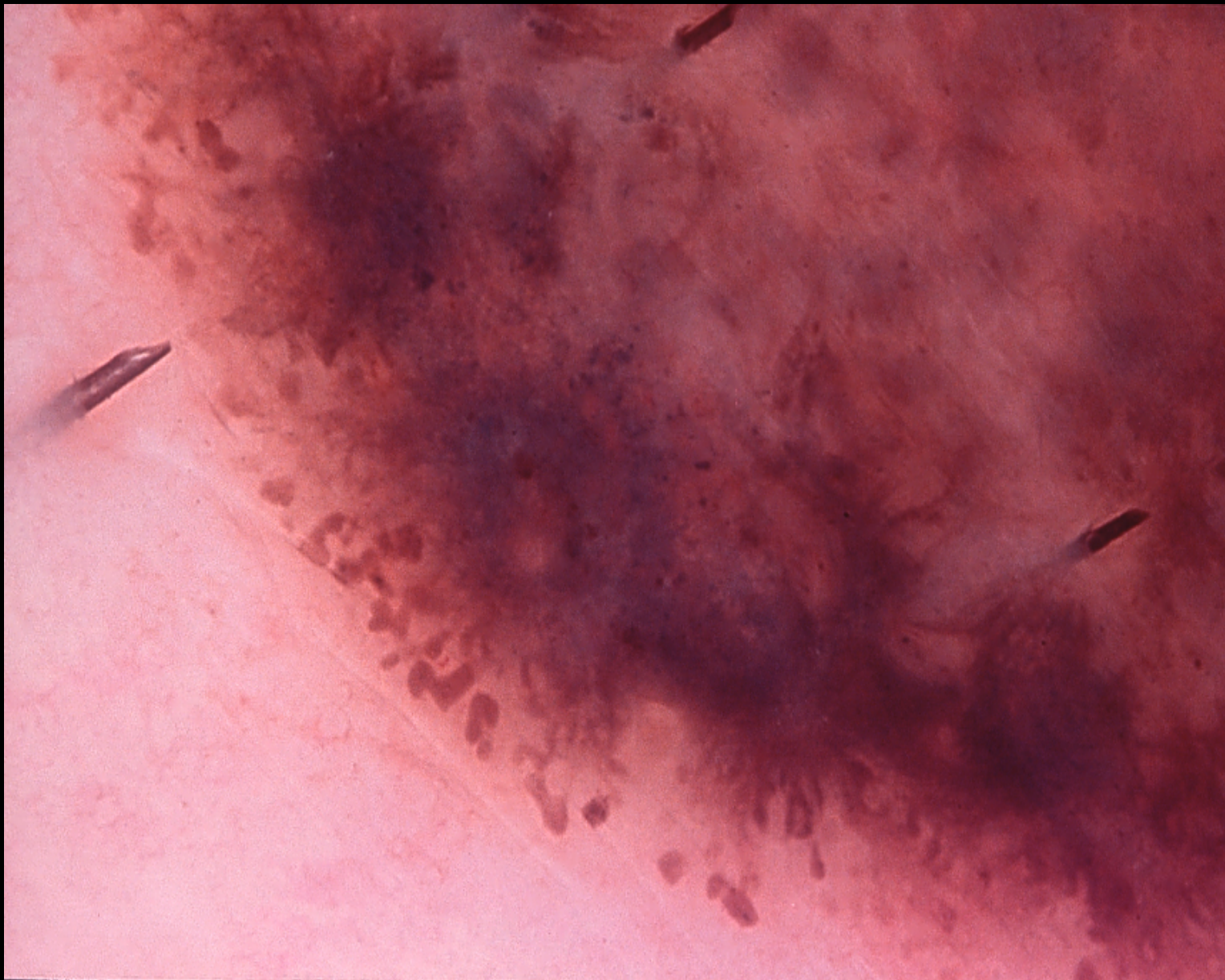
Irregular black dots/globules within a melanoma



Brown globules in a benign acquired nevus (globular nevus)



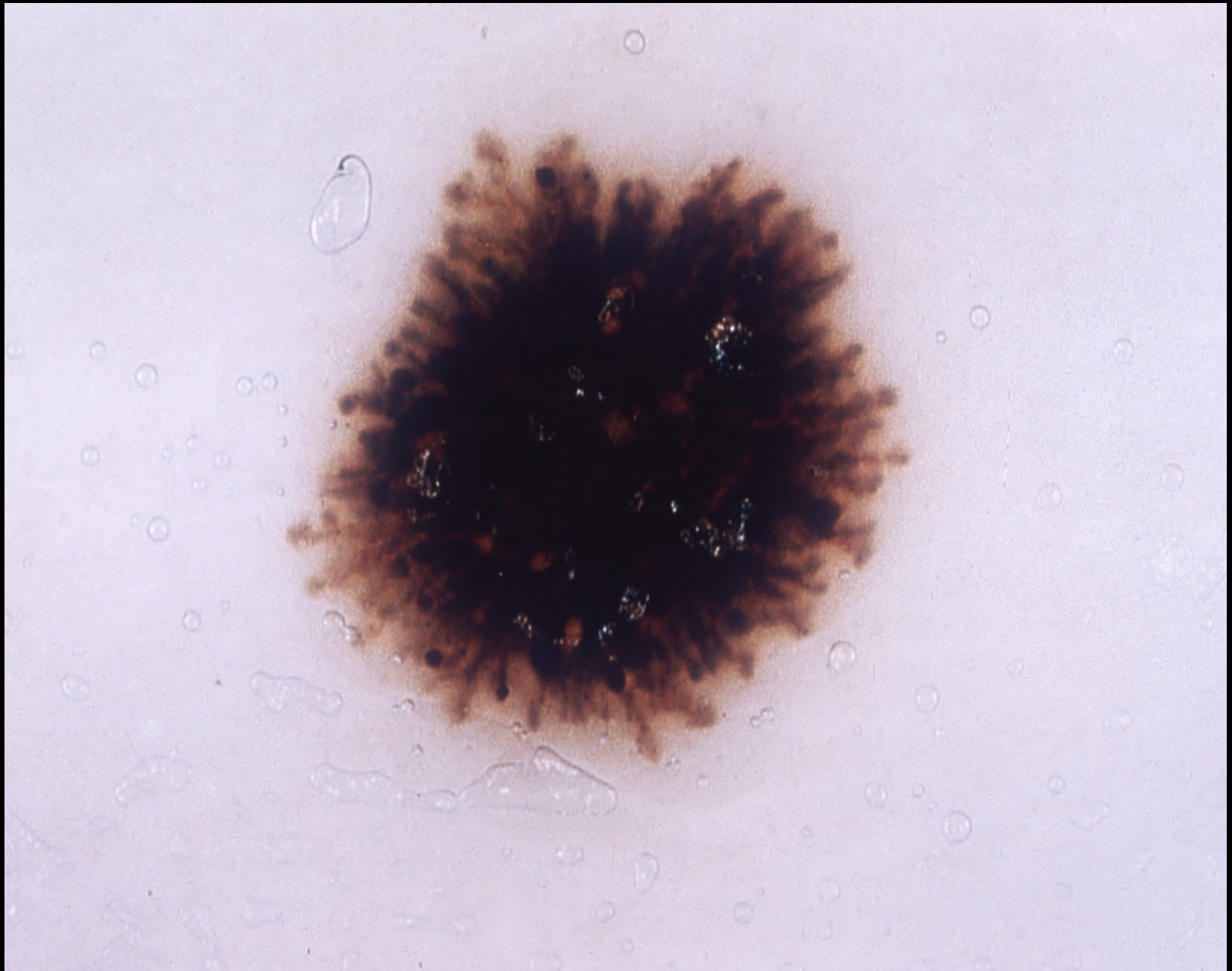
Streaks at the periphery of a superficial melanoma



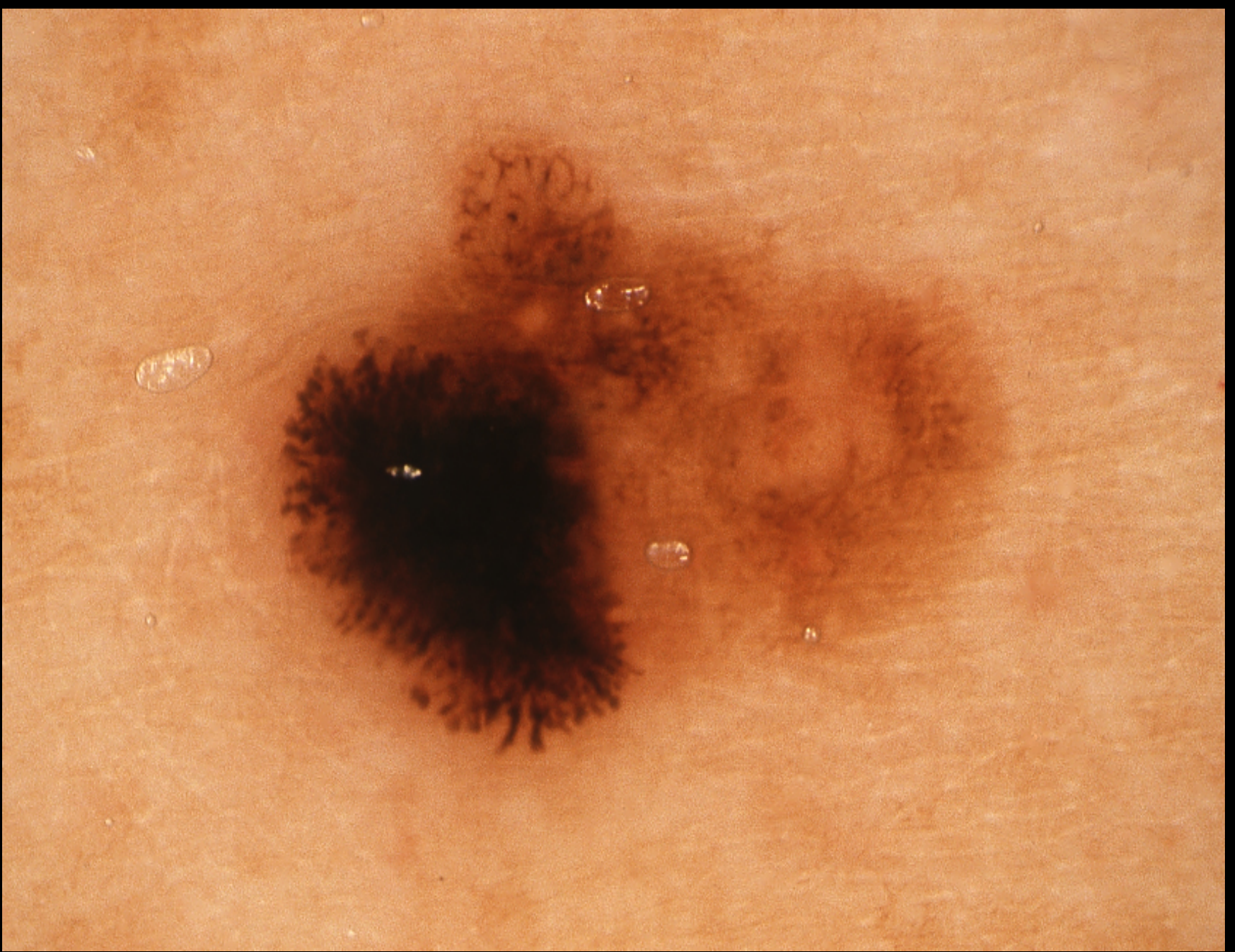
Variation on the theme of streaks, dots/globules, pseudopods at the periphery of a superficial melanoma



The architectural distribution of dermoscopic features is of uppermost importance



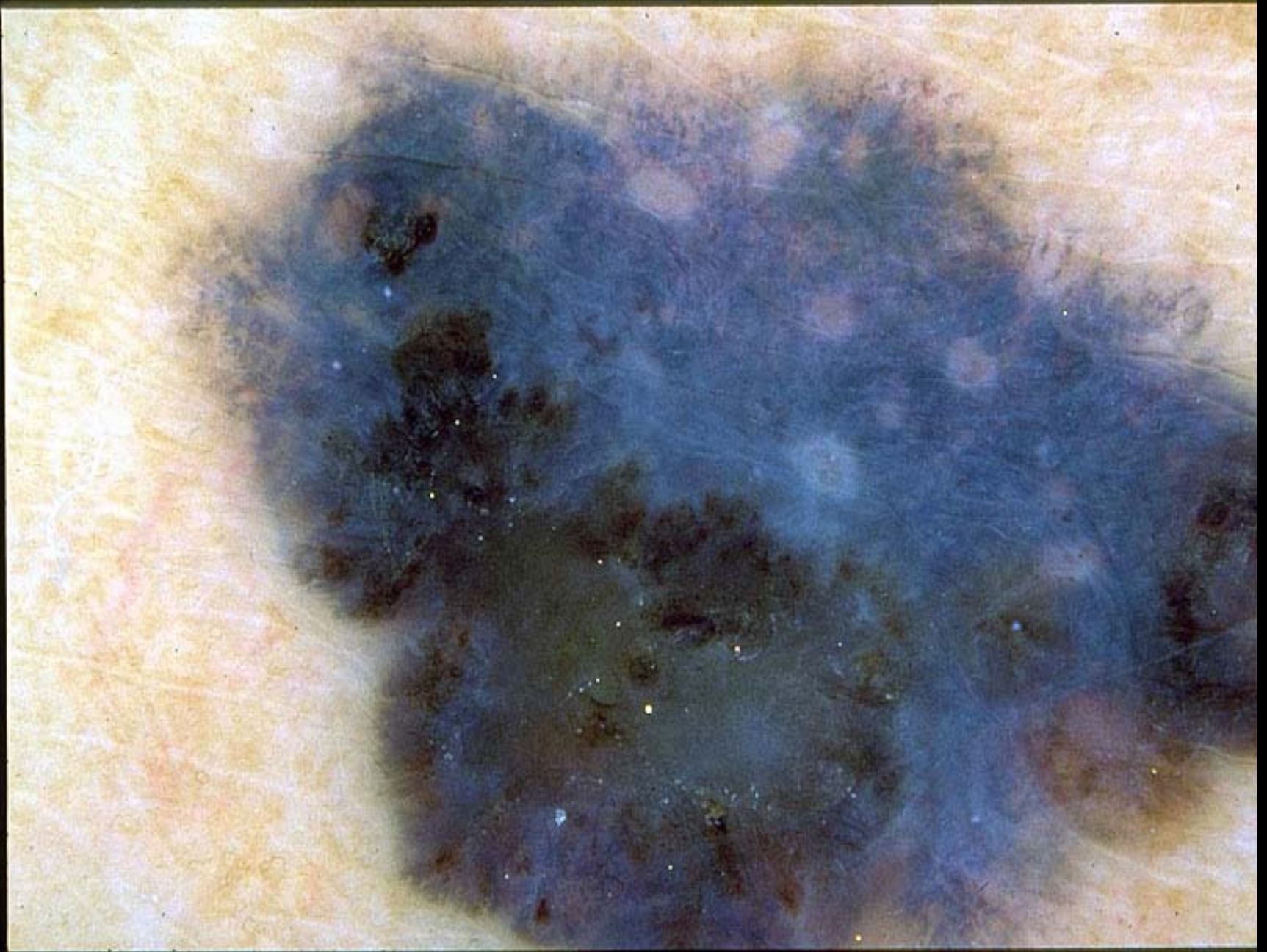
Reed nevus with numerous streaks in a radial arrangement



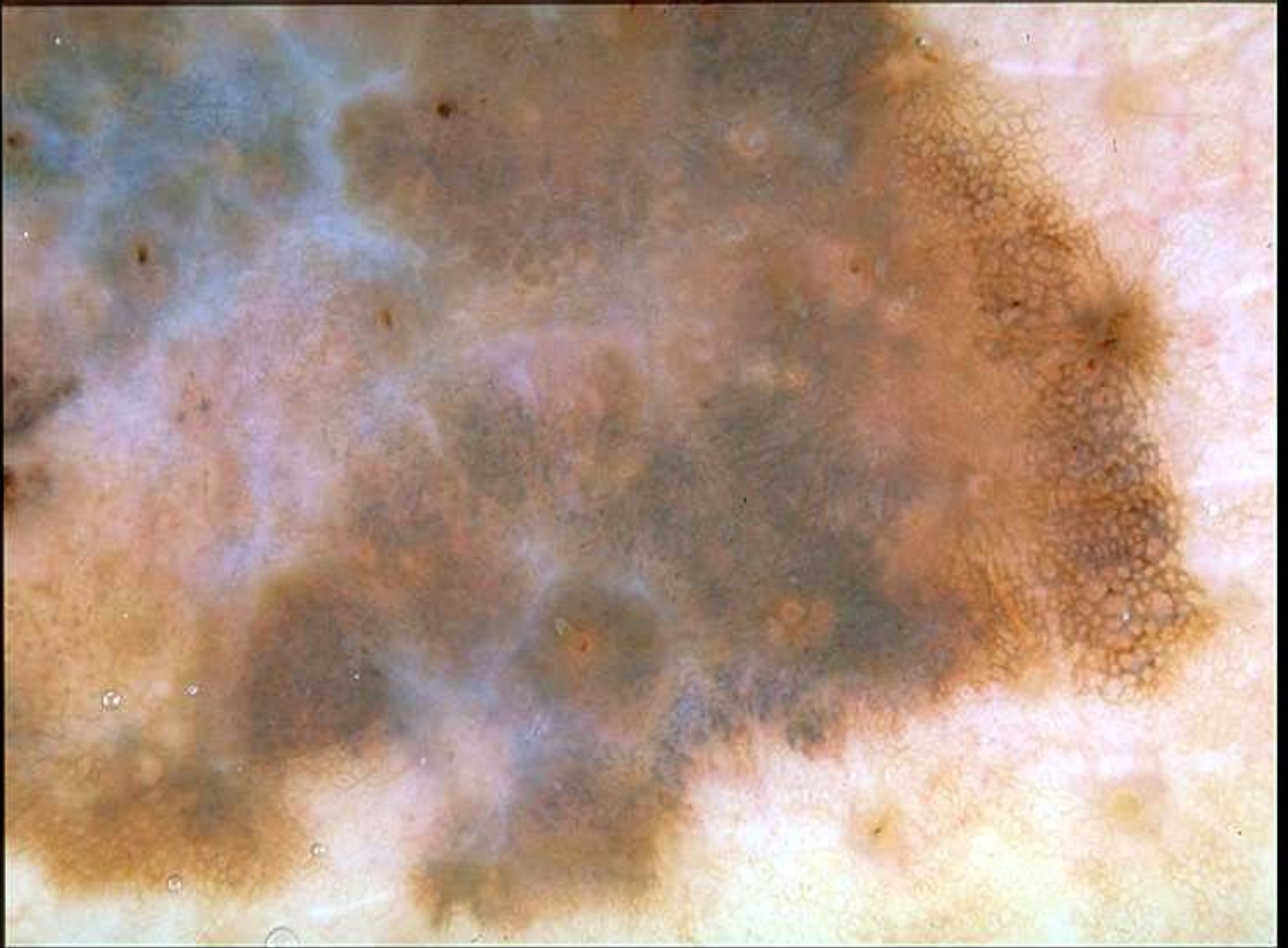
Melanoma characterized by streaks probably within a pre-existing nevus



Blue-whitish veil – irregular, confluent, gray-blue to whitish-blue area



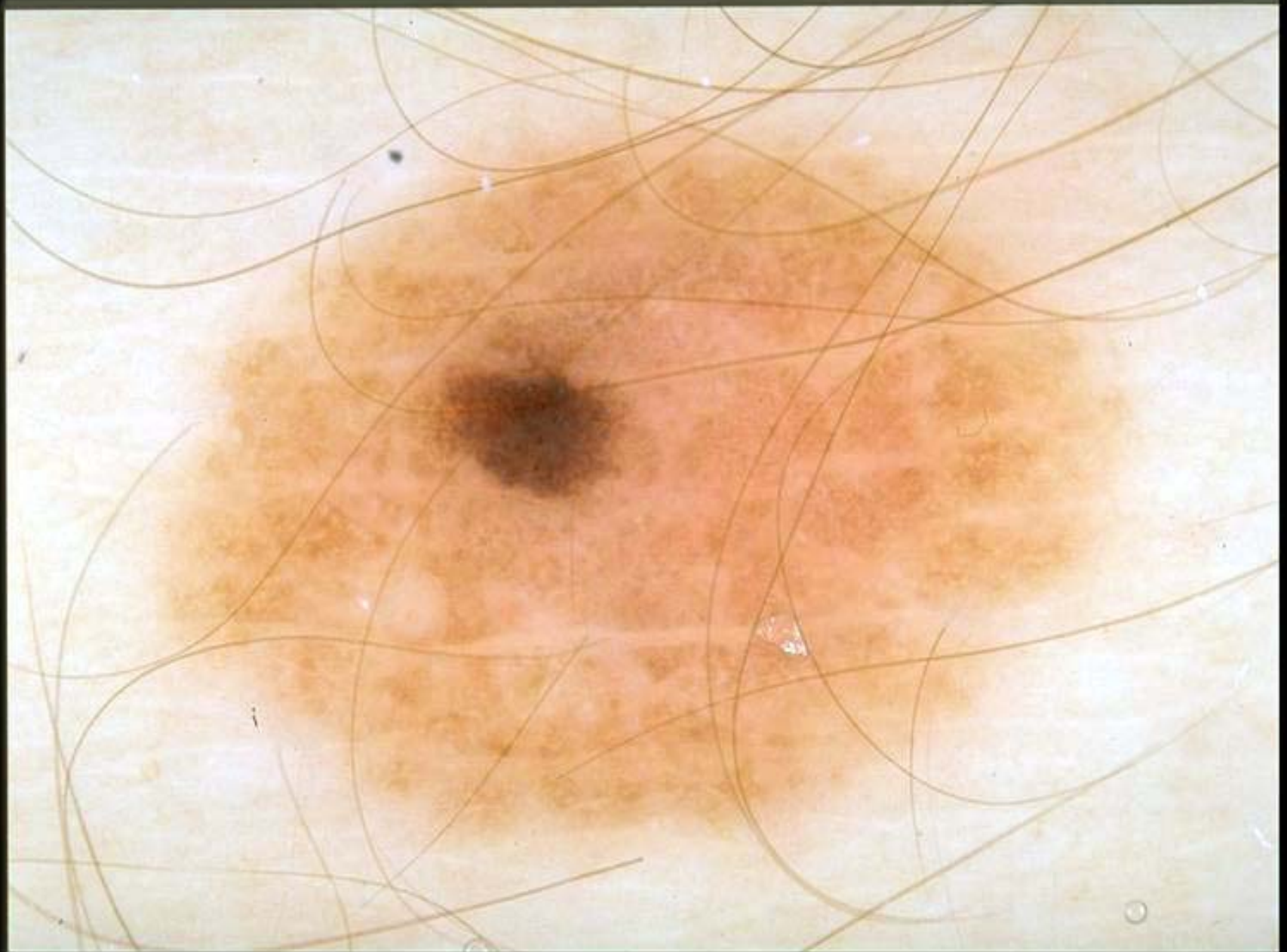
Melanoma with stereotypical example of blue-whitish veil



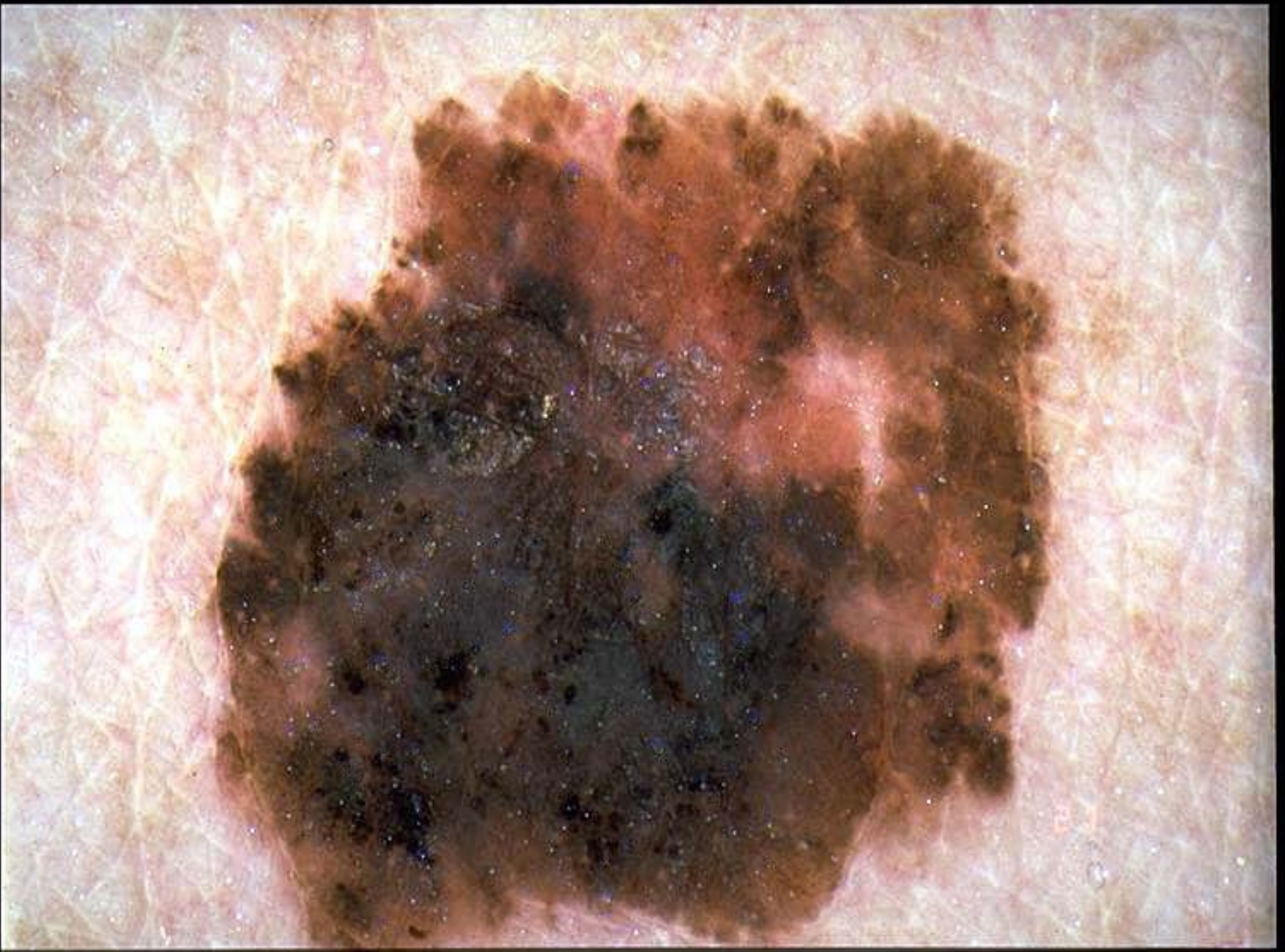
Blue-whitish veil sometimes is indistinguishable from regression structures

# Local Features -- II

- Blotches
- Regression structures
- Vascular structures



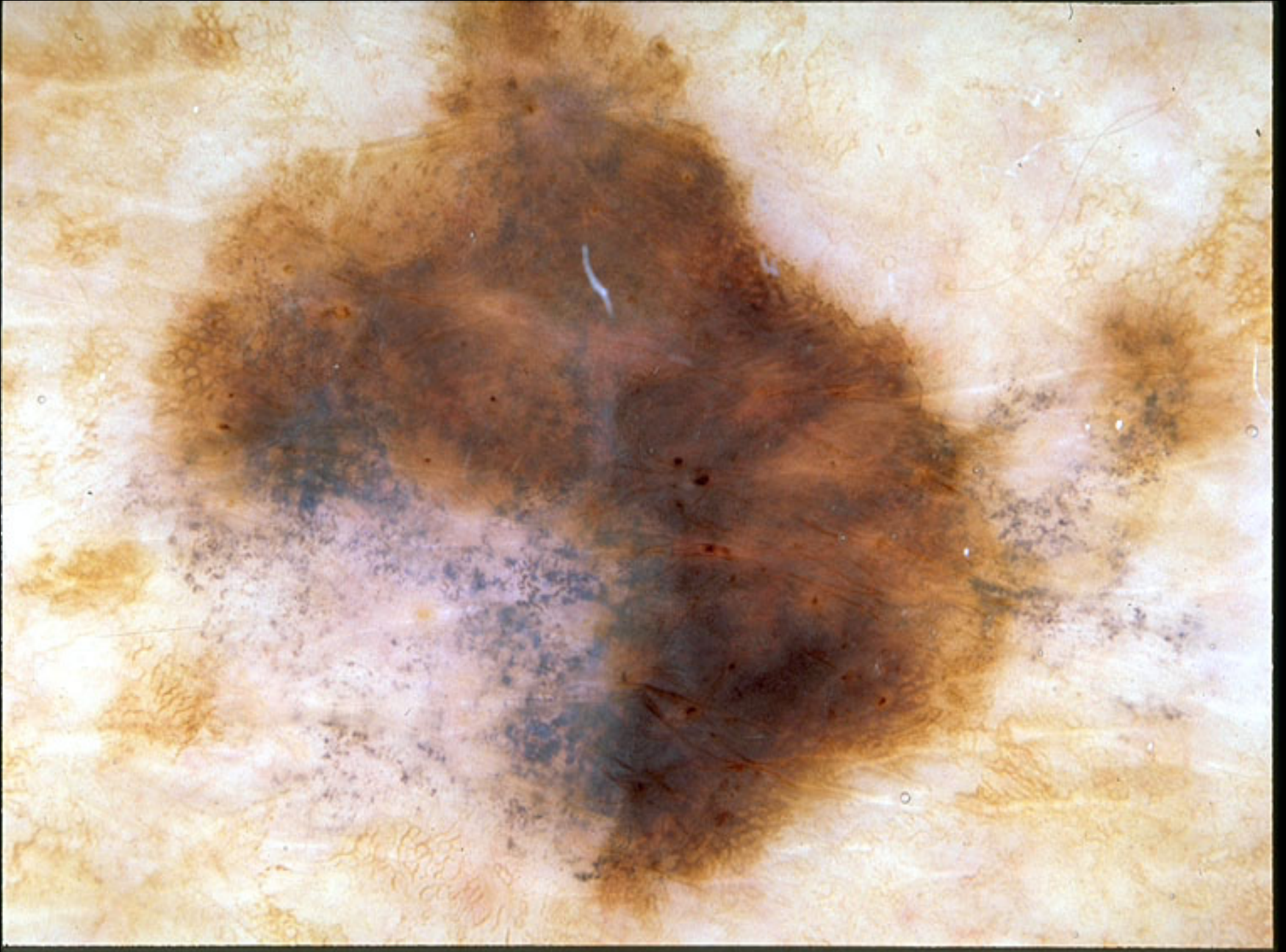
Regular localized blotch in a benign melanocytic nevus



Irregular diffuse blotches in a melanoma



Regression structures characterized by white and blue areas in a regressive melanoma associated with a small congenital nevus



Regression structures characterized by white and blue areas in a melanoma



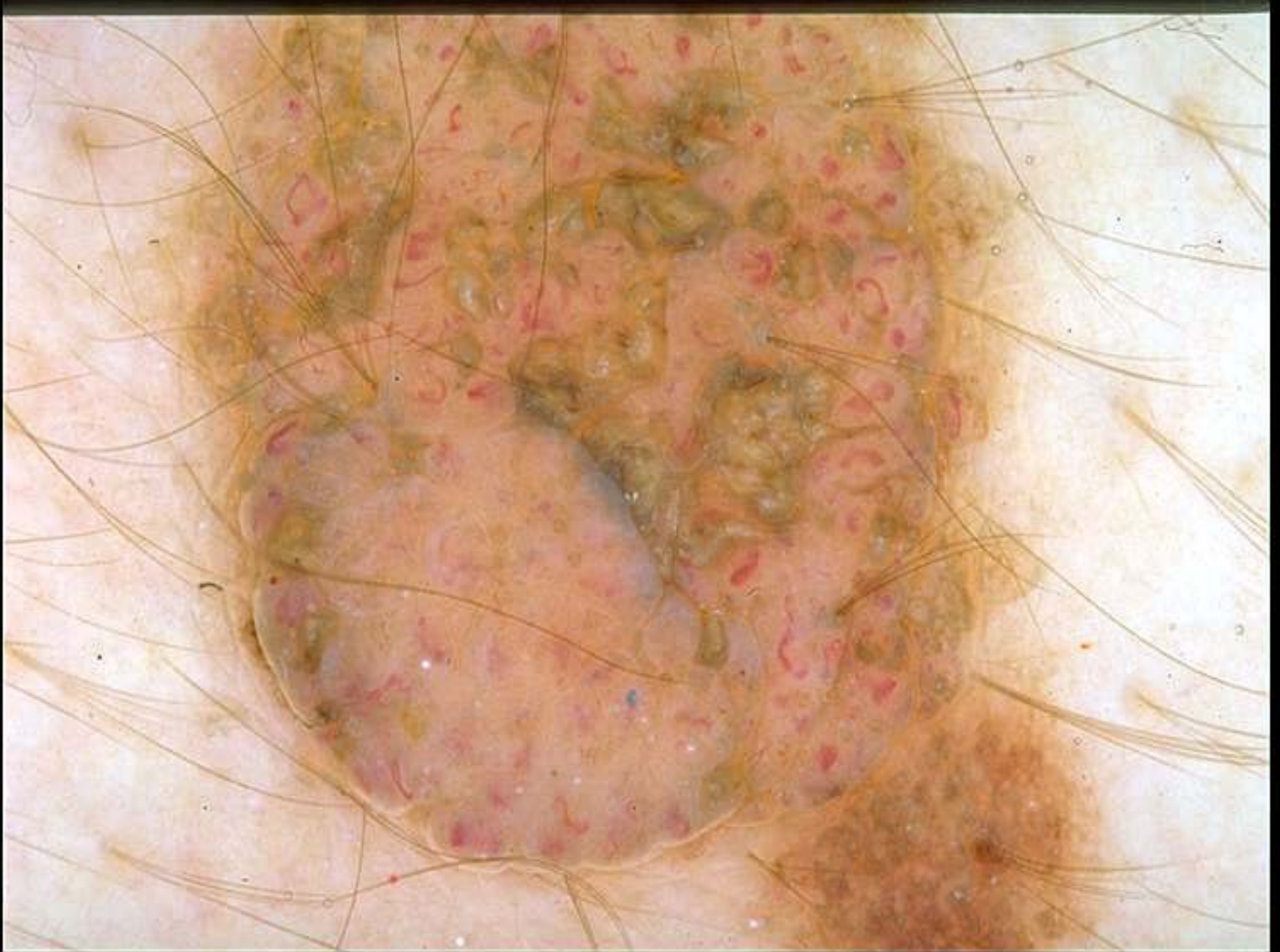
White areas and subtle blue areas in a regressive melanoma

# Vascular Structures

- Arborizing vessels – basal cell carcinoma
- Comma vessels – papillomatous dermal nevus
- Dotted vessels – nevus, melanoma
- Hairpin vessels – epithelial tumors, melanoma
- Linear irregular vessels – melanoma



Arborizing vessels in a nodular basal cell carcinomas



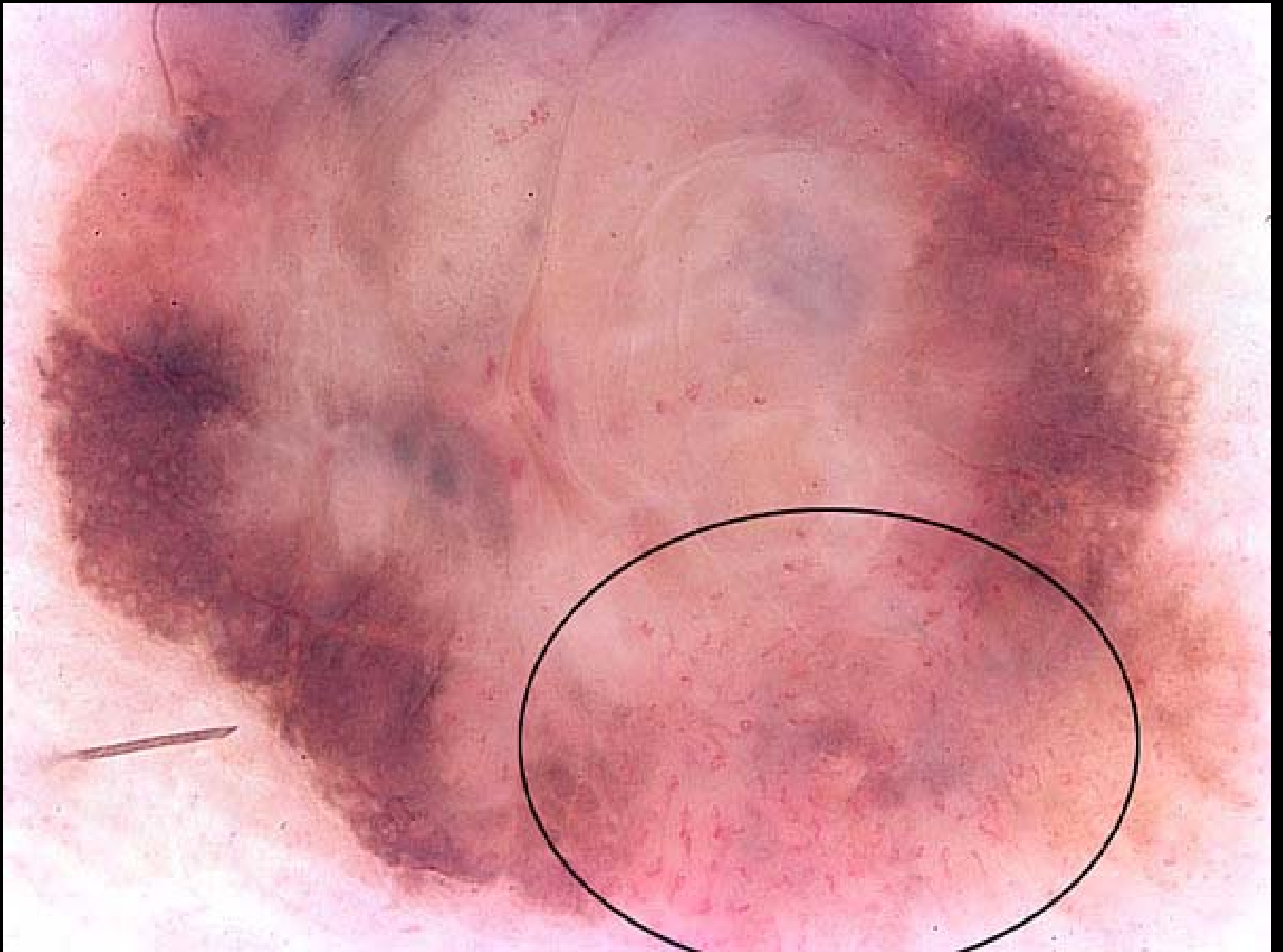
Comma vessels in a papillomatous (Unna) nevus



Numerous dotted vessels in a hypomelanotic nodular melanoma



Hairpin vessels in an irritated seborrheic keratosis



Linear irregular vessels in a melanoma

①



Arborizing microvessels

②



Arborizing vessels

③



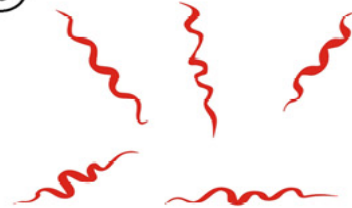
Atypical red vessels

④



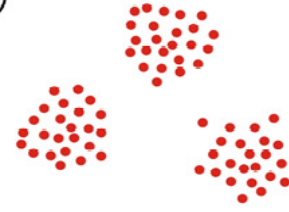
Comma vessels

⑤



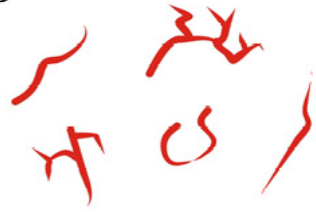
Corkscrew vessels

⑥a



Clustered vascular pattern

⑥b



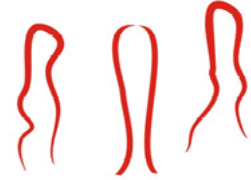
Scattered vascular pattern

⑦



Glomerular vessels

⑧



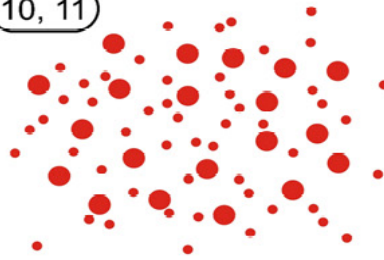
Hairpin vessels

⑨



Red globular rings

⑩, 11



Red dots and globules

⑫



Telangiectactic vessels

# Pattern analysis

Identification of objects and images by their shapes, forms, outlines, color, surface texture or other attributes

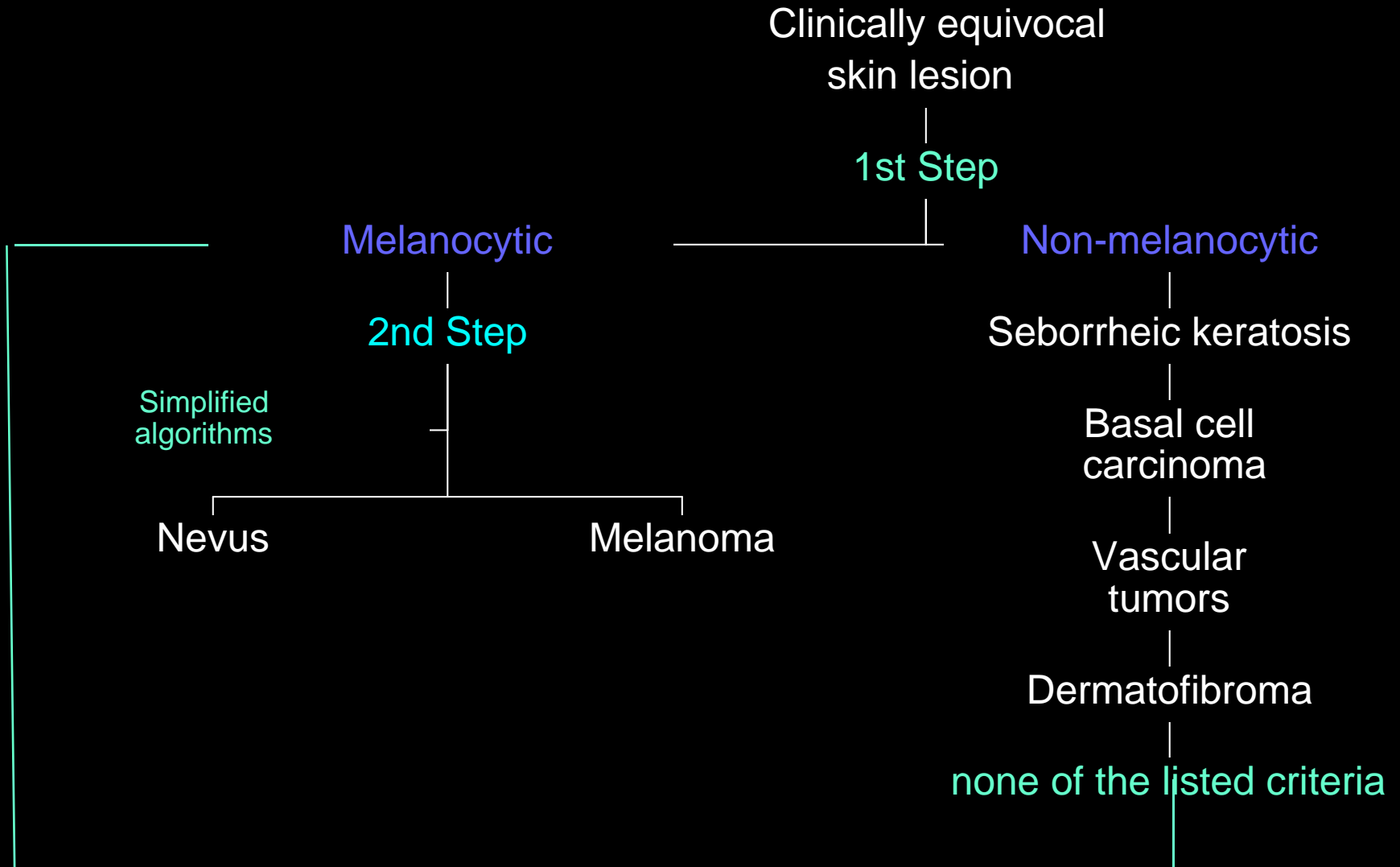
The dermoscopic criteria are the letters of the dermoscopic alphabet forming the patterns (words)

# Pattern Analysis

First step: differentiation of non-melanocytic from melanocytic lesions

Second step: differentiation of nevi from melanomas

# A Stepwise Approach

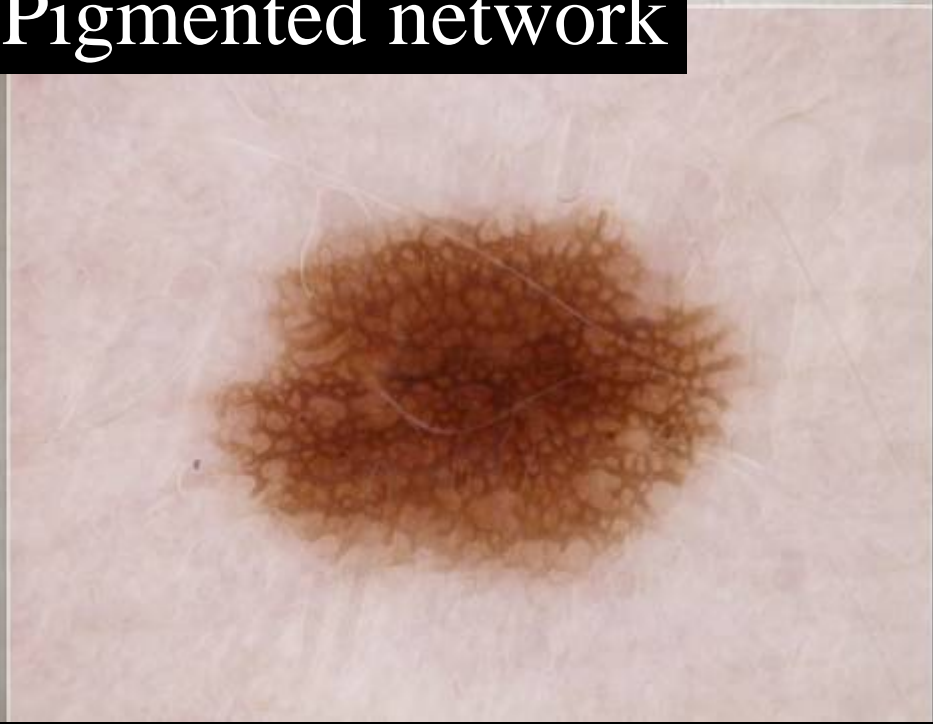
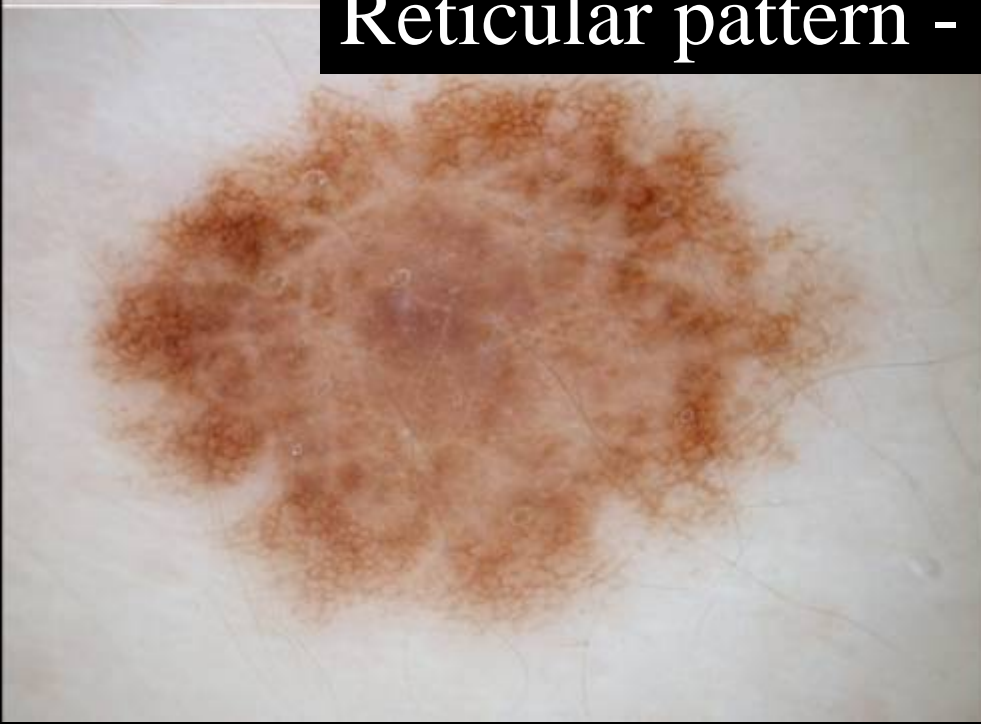


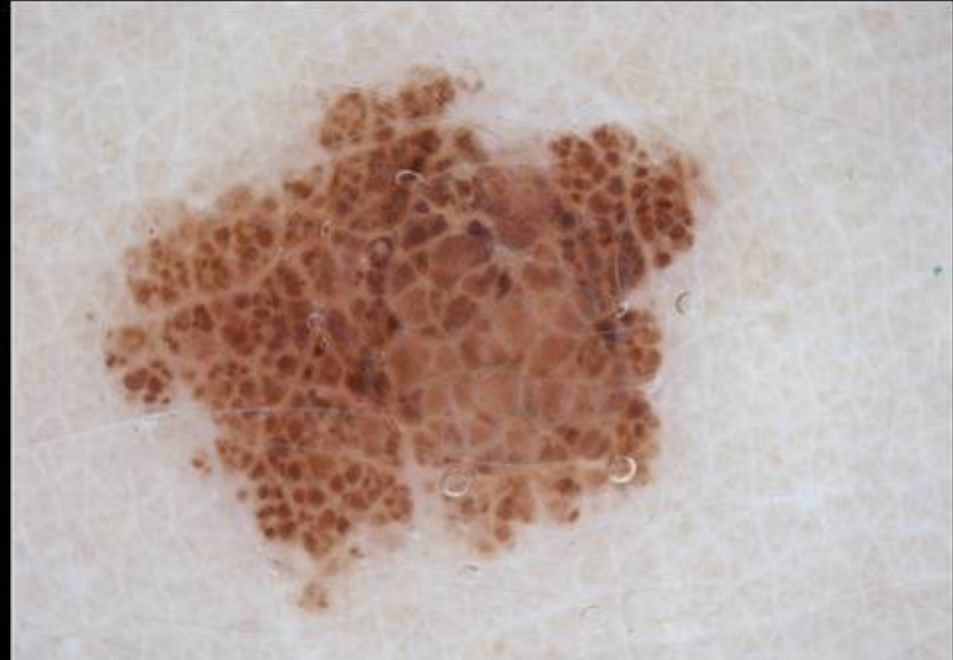
# Criteria for melanocytic skin lesions

- Reticular  
pattern
- Globular-Cobblestone  
pattern
- Starburst  
pattern
- Homogeneous  
blue pattern
- Site specific pattern
  - Parallel  
pattern
  - Pseudo-network  
pattern

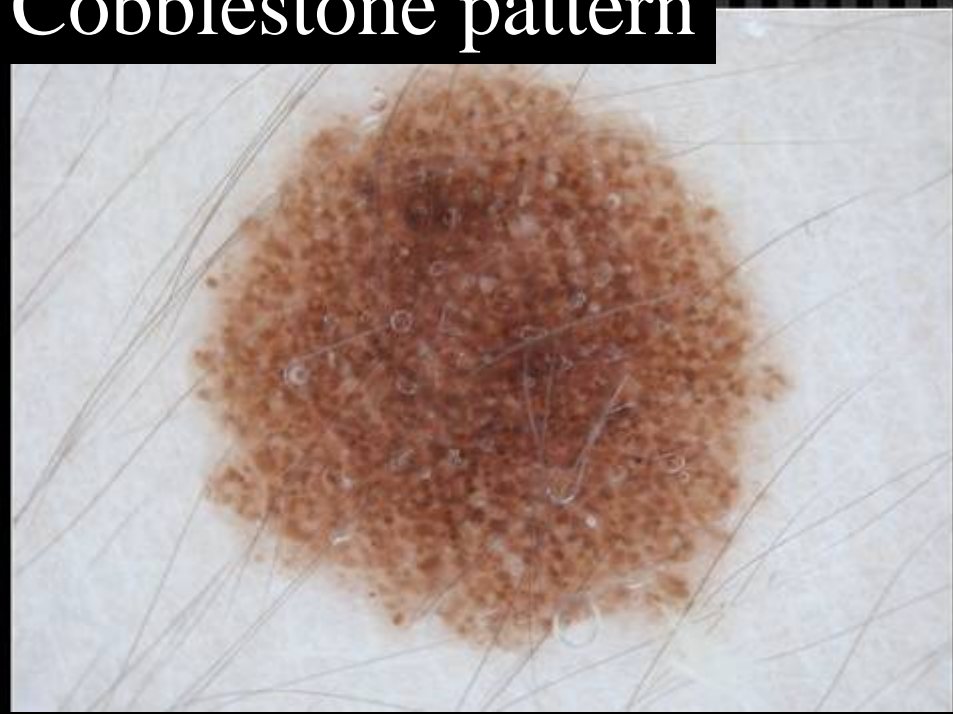
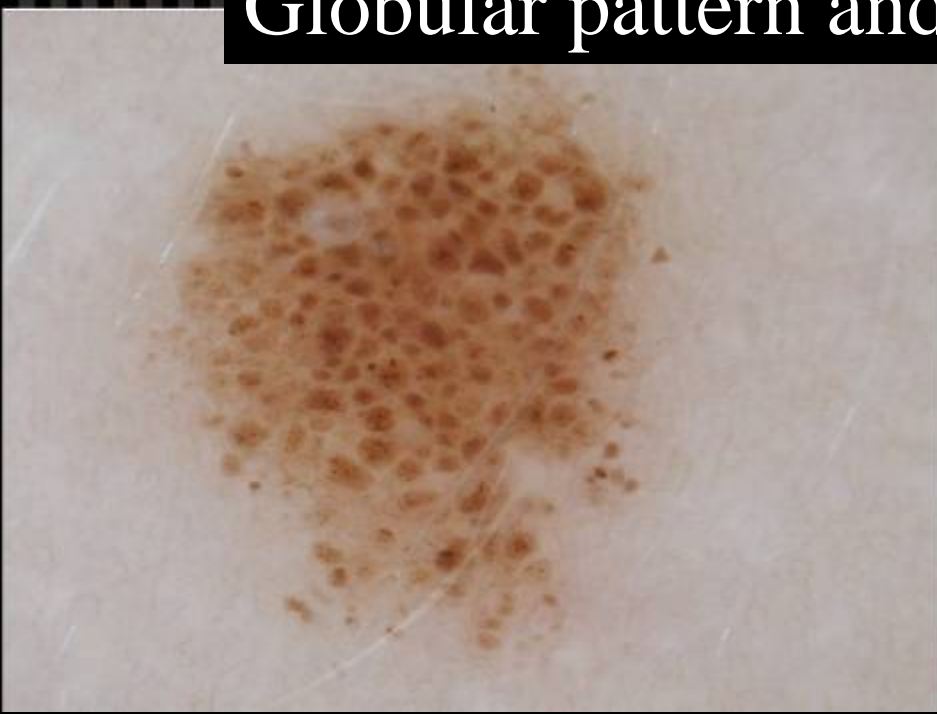


**Reticular pattern - Pigmented network**





**Globular pattern and Cobblestone pattern**



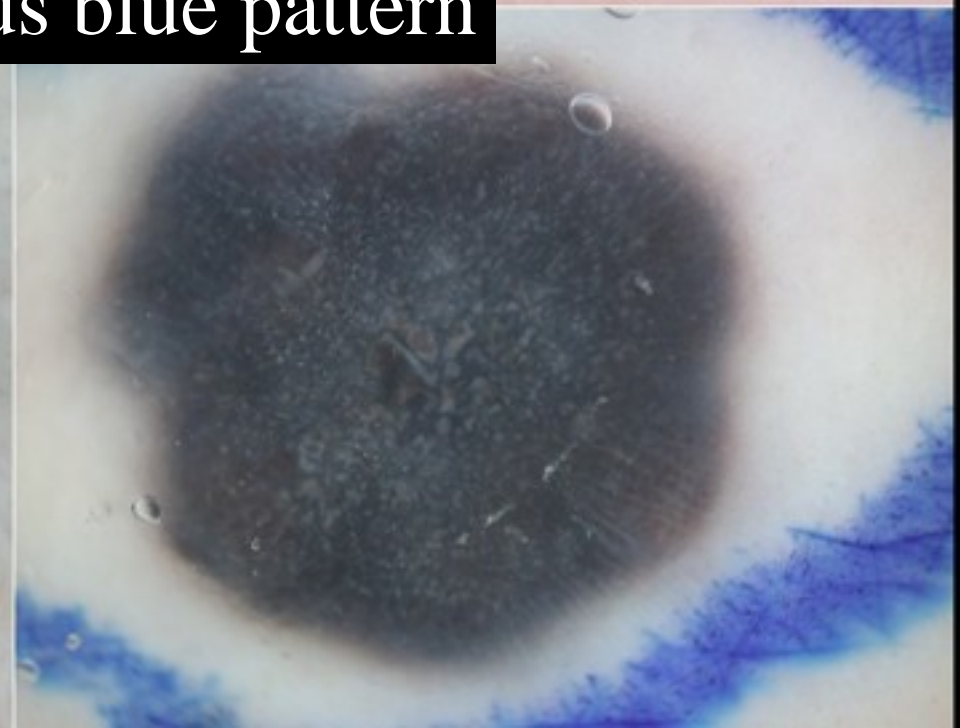


**Starburst pattern - Streaks - Pseudopods**

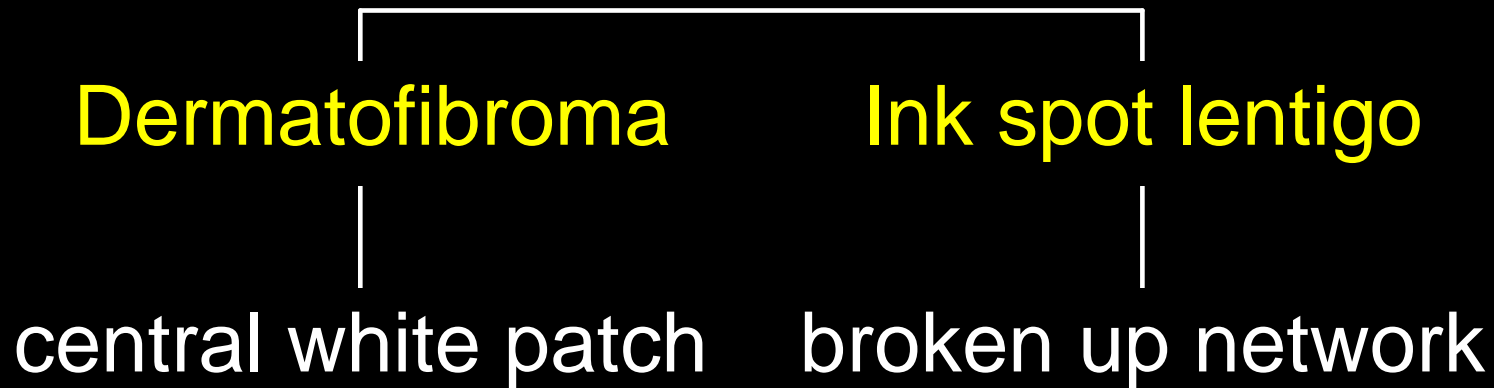




**Homogeneous blue pattern**



# Exceptions: Pigment network





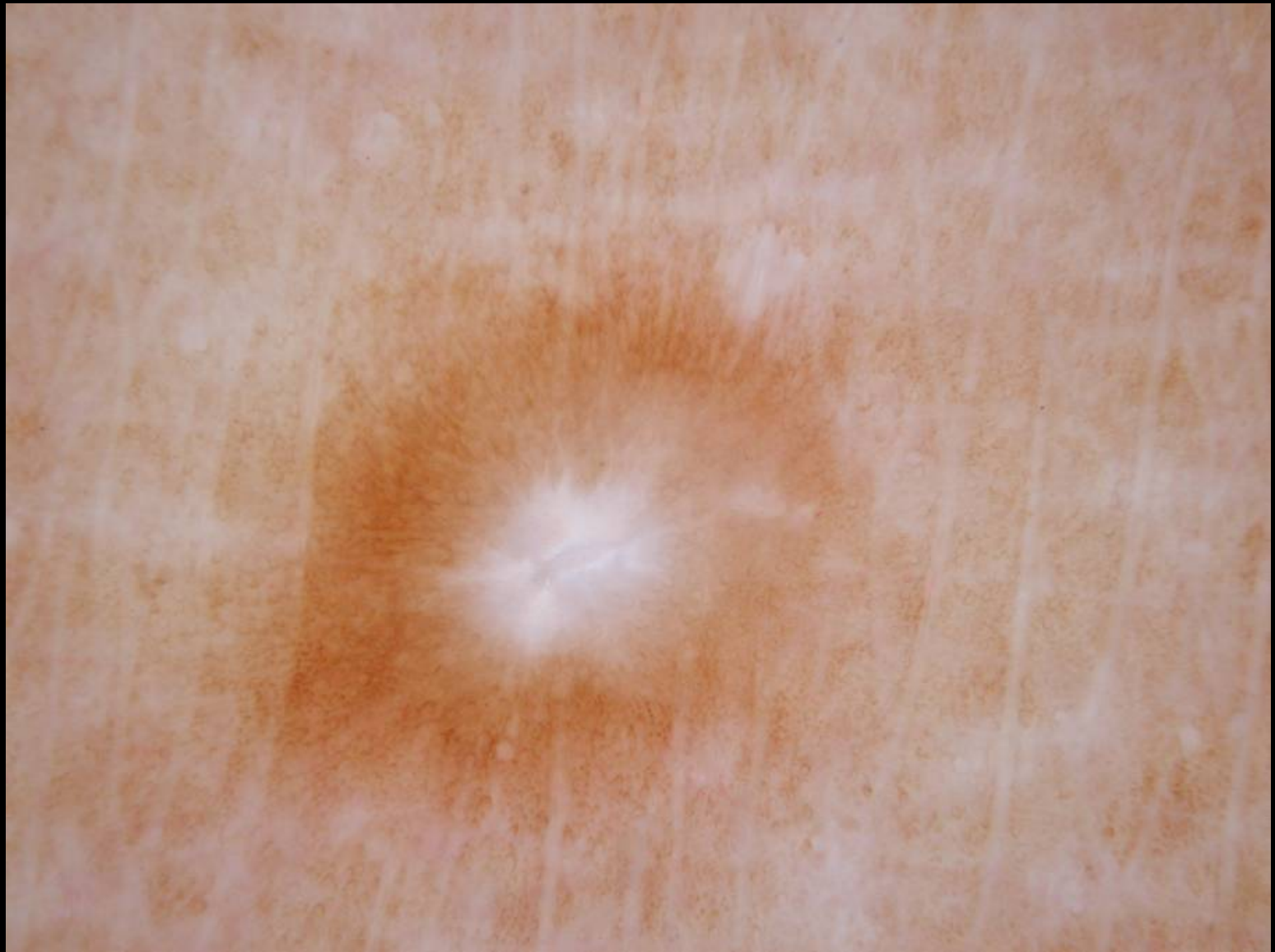








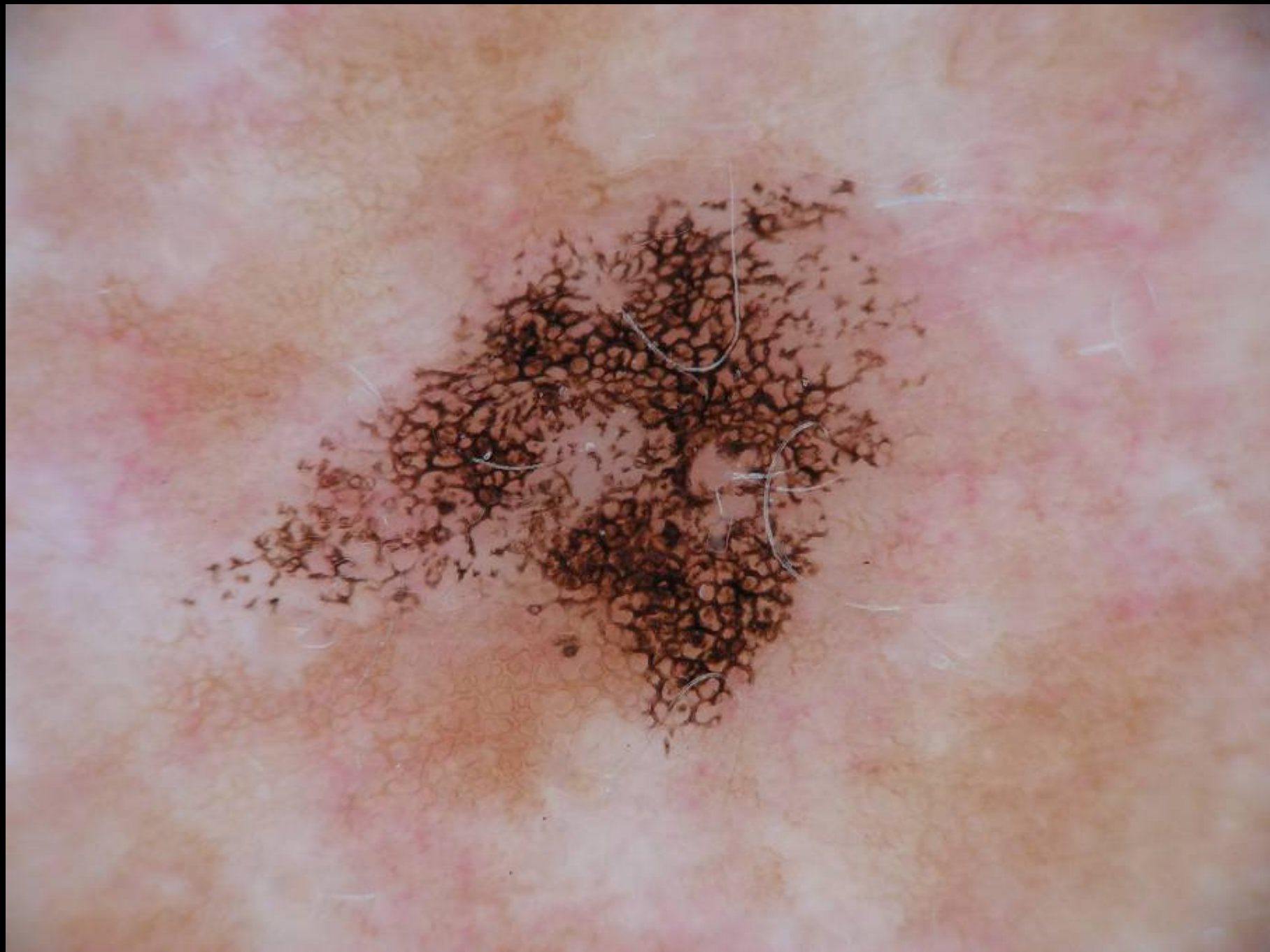


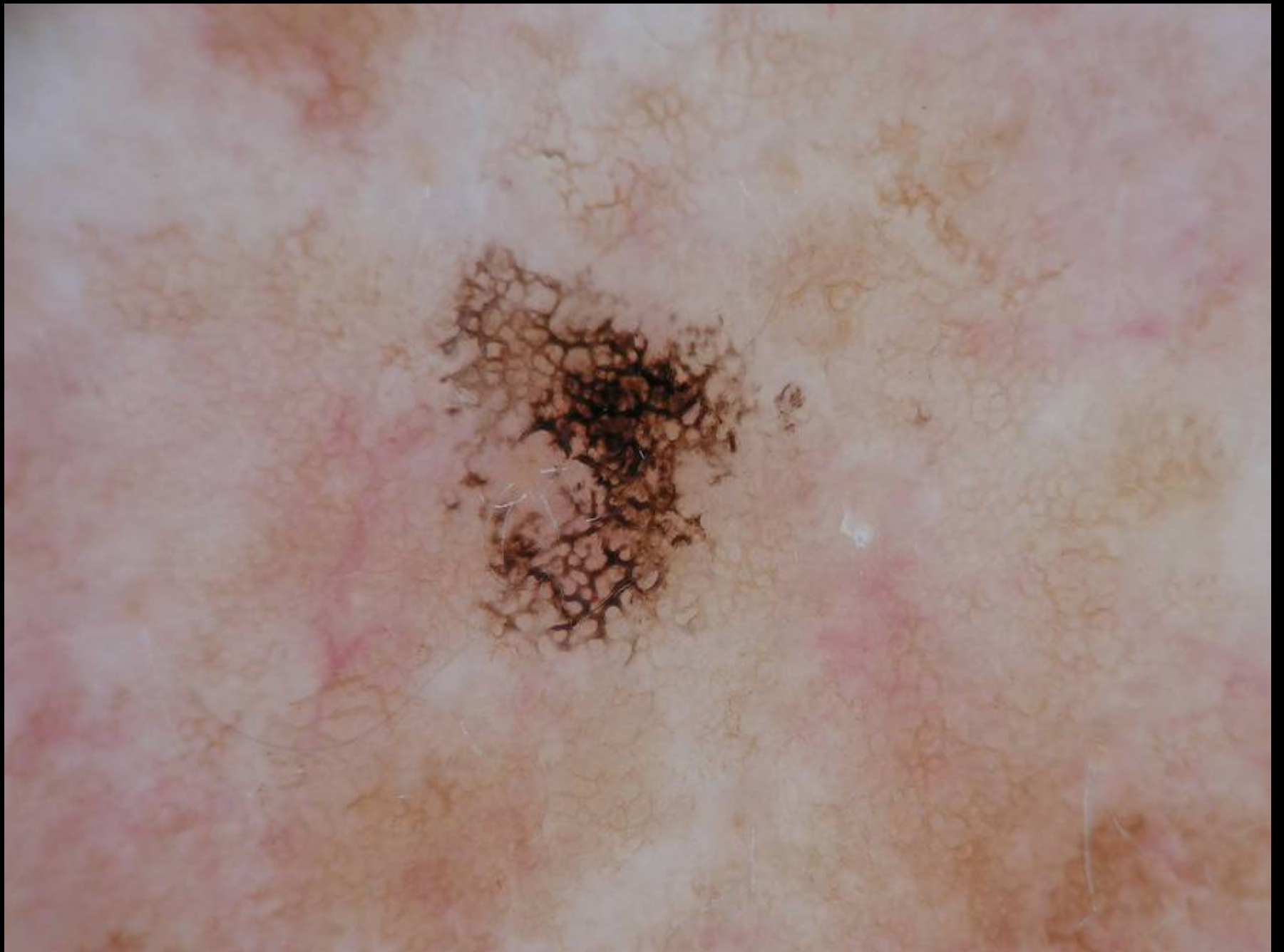


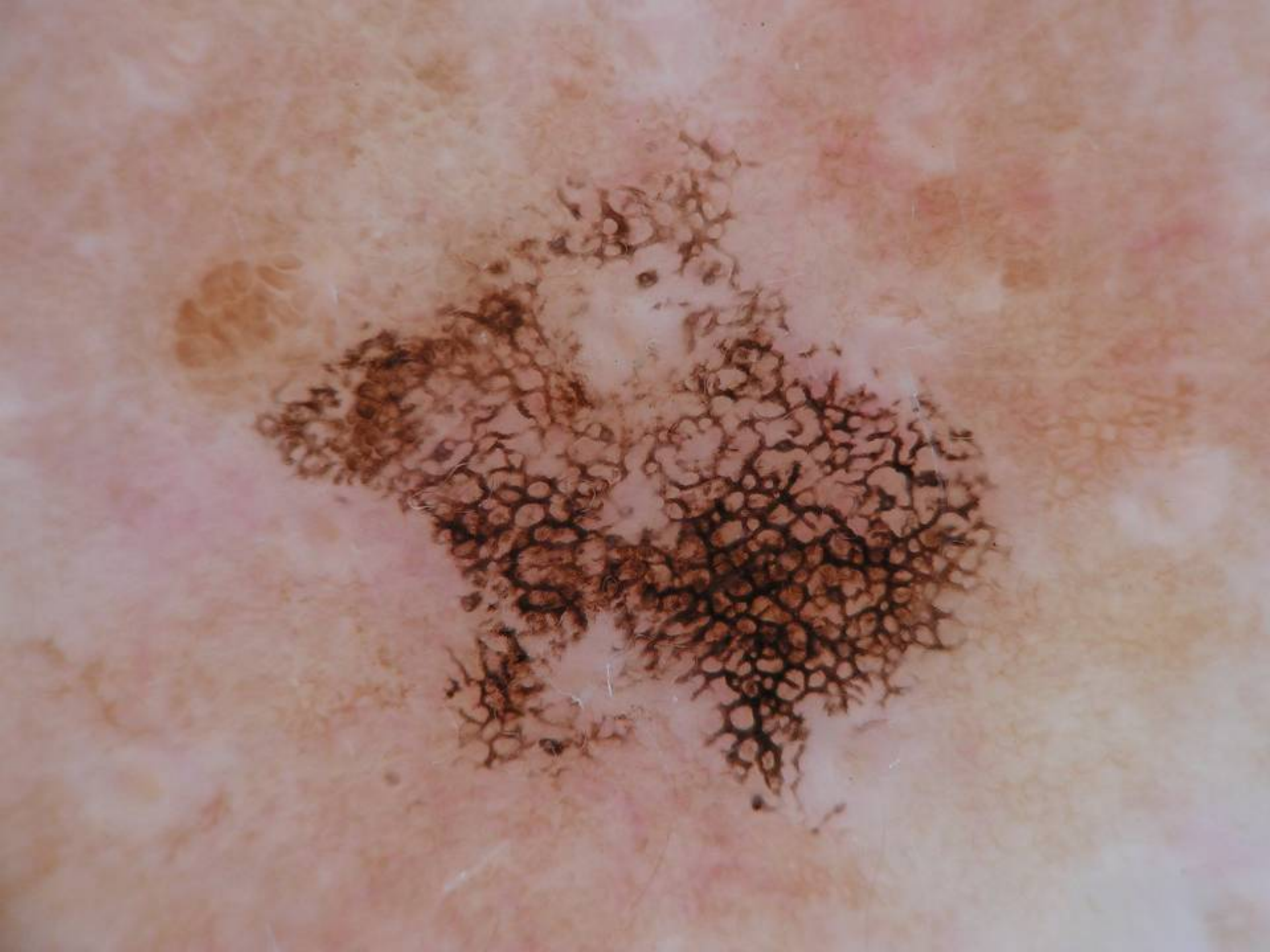














# 1st Step

## Pigmented skin lesion

Melanocytic  
skin lesions

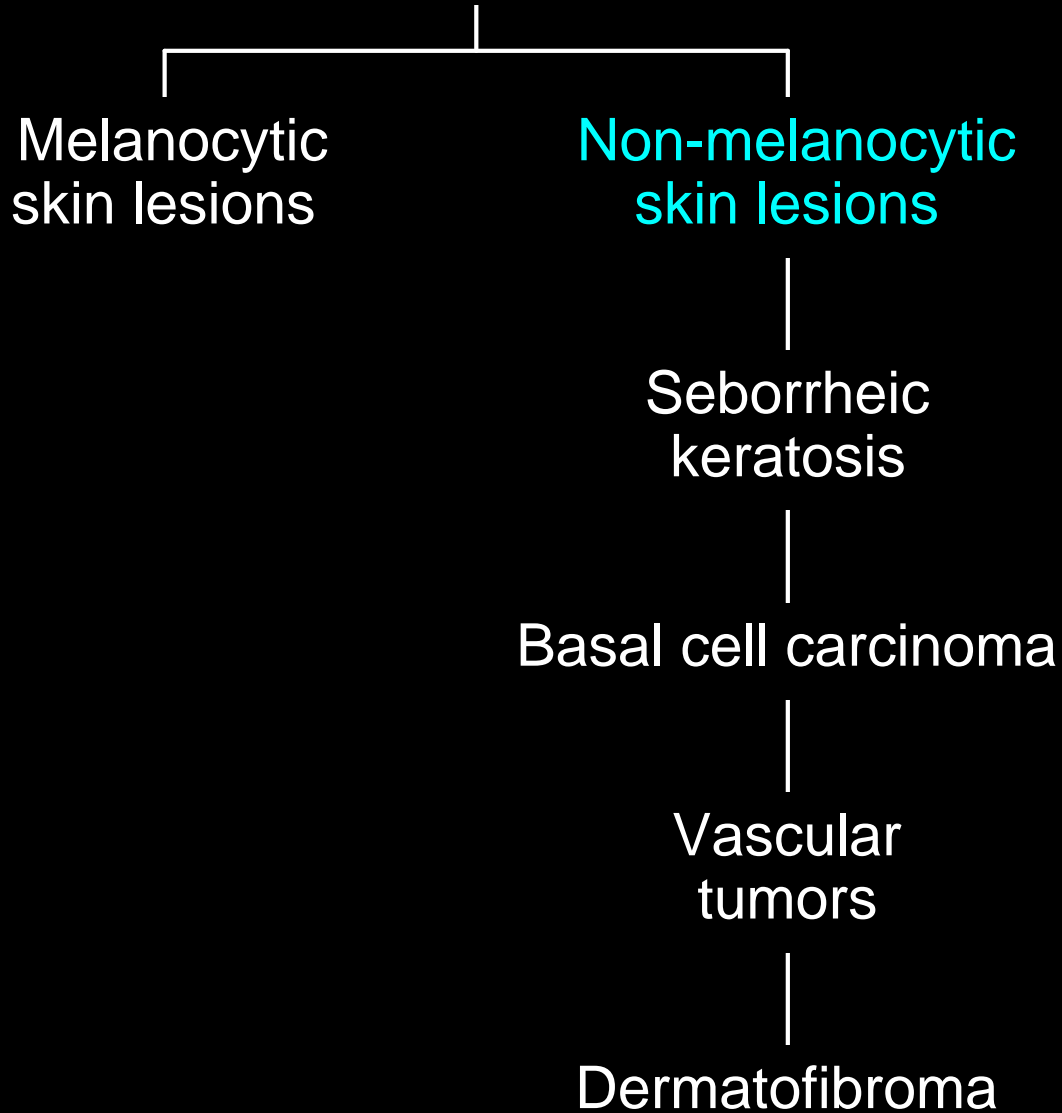
Non-melanocytic  
skin lesions

Seborrheic  
keratosis

Basal cell carcinoma

Vascular  
tumors

Dermatofibroma

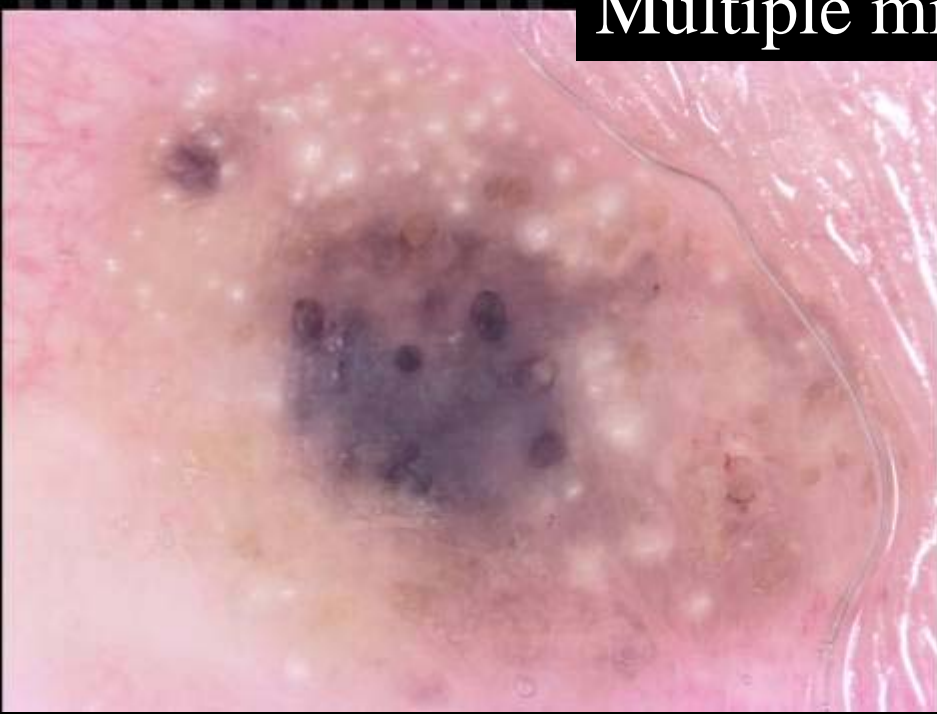


# Criteria for Seborrheic keratosis

- Multiple milia-like cysts
- Multiple comedo-like opening
- Fissures and ridges
- Fingerprint like structures
- Moth eaten borders - Jelly sign
- Fat fingers
- Network-like structures



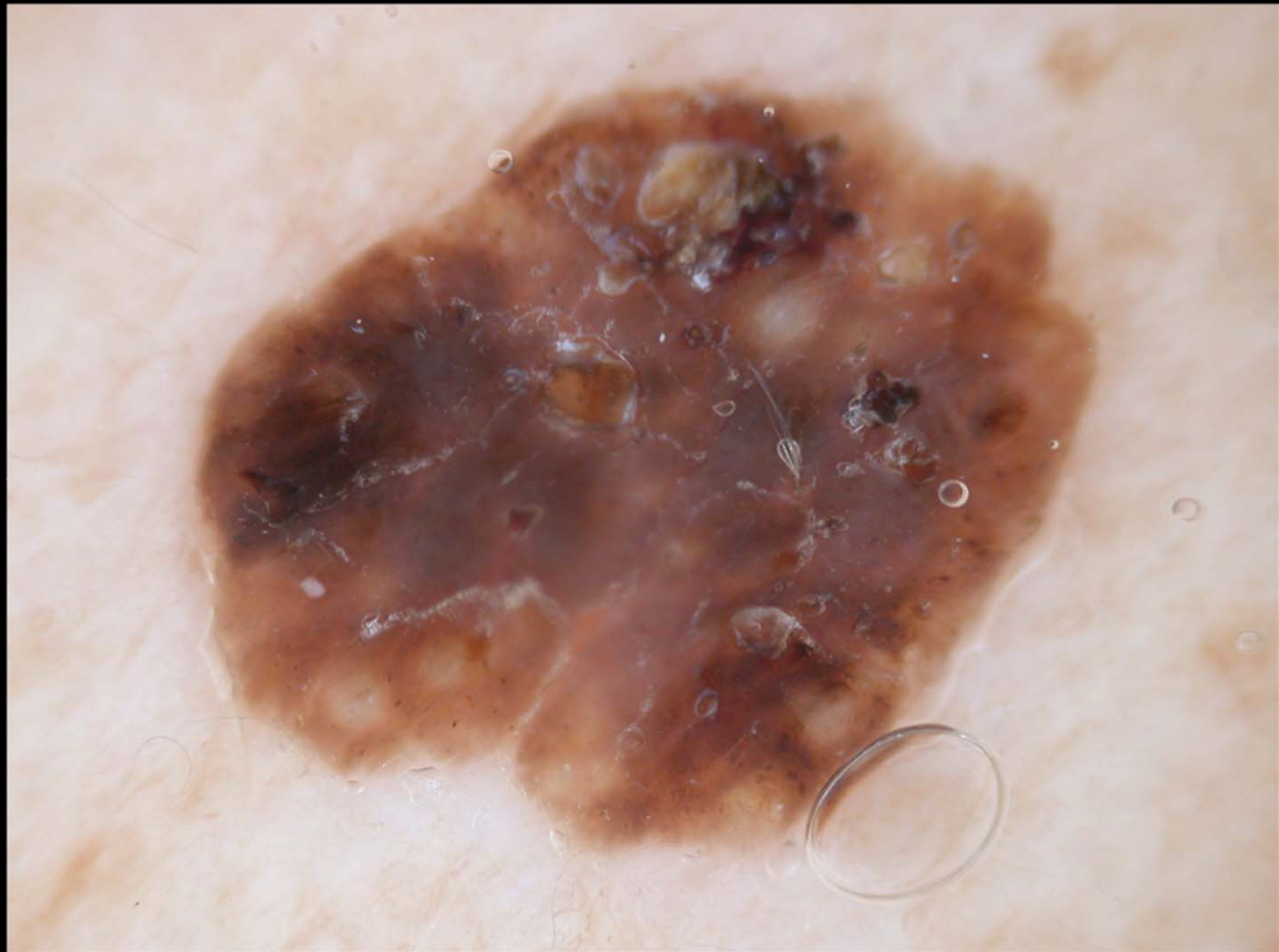
**Multiple milia-like cysts**



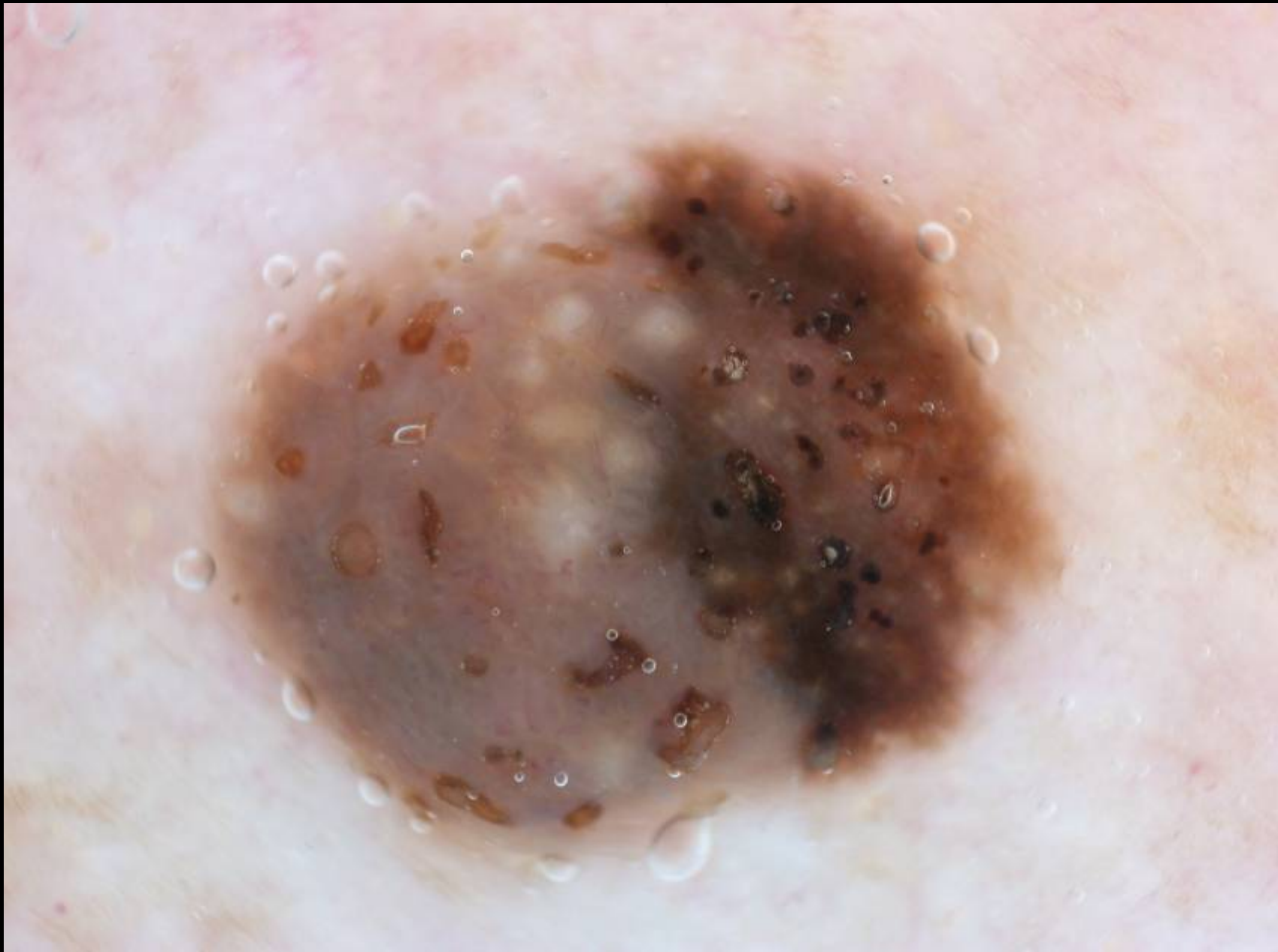
Milia like cysts look like the stars in the sky













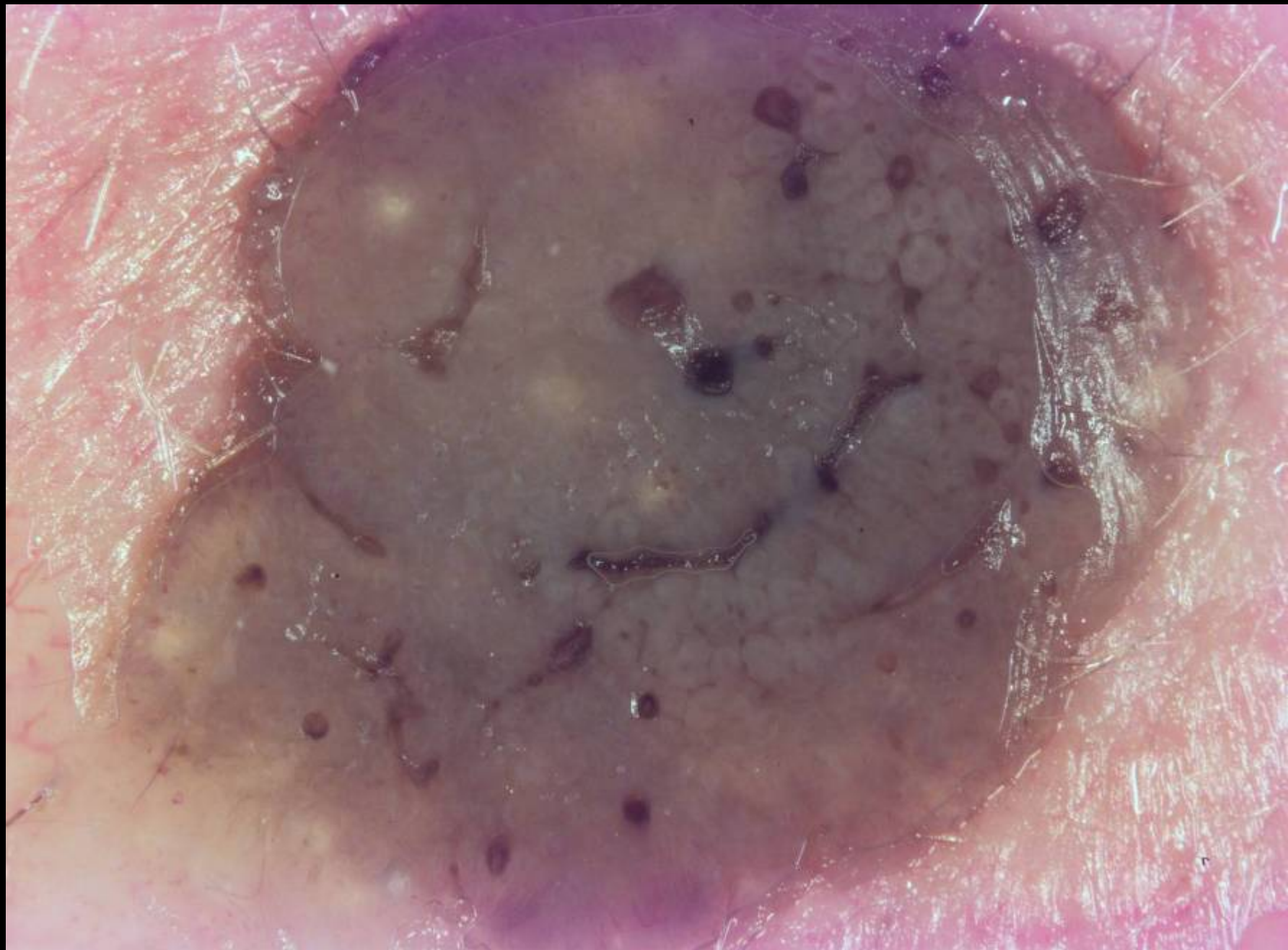
**Multiple comedo-like openings**



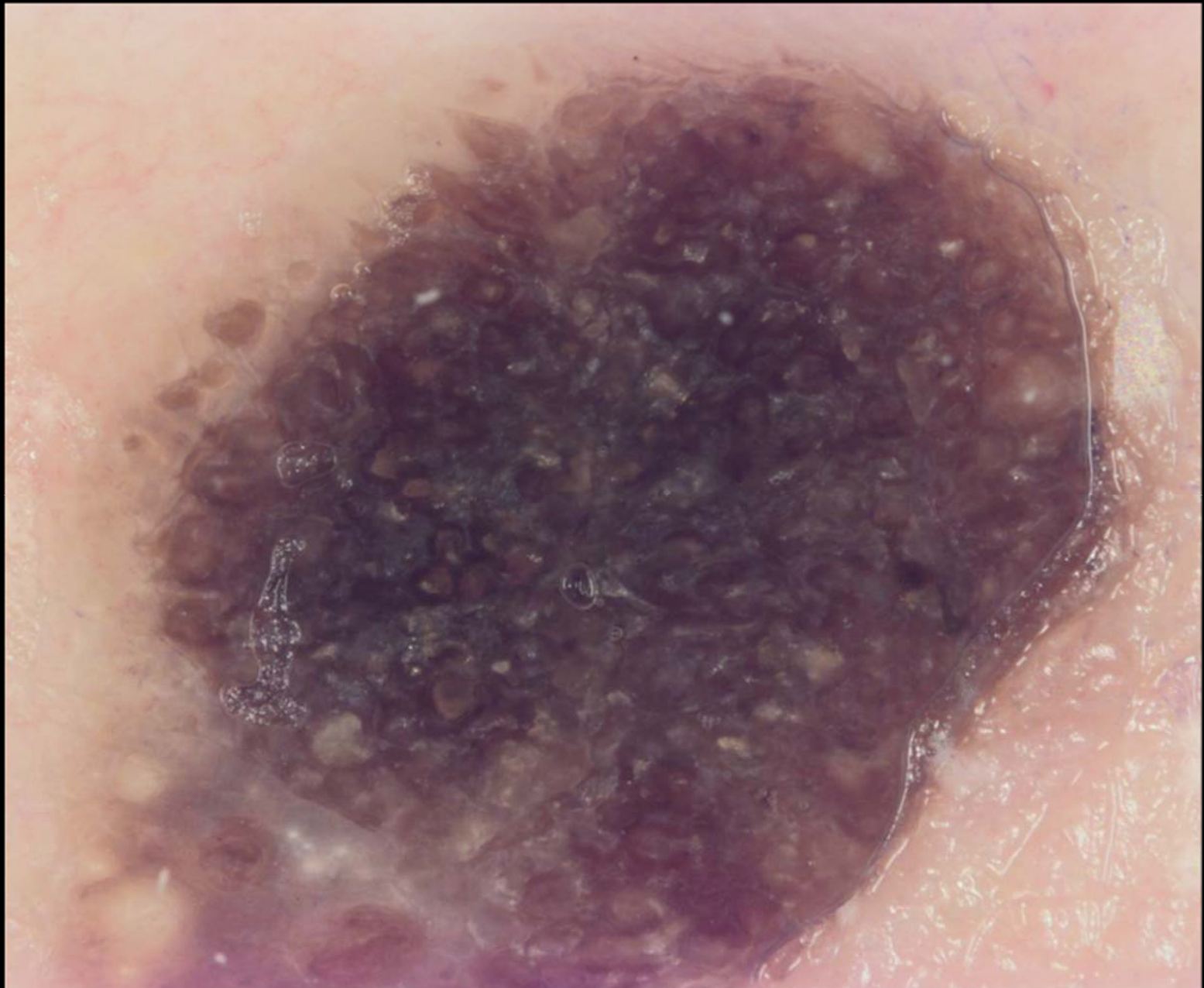
Comedo-like openings have a targetoid appearance

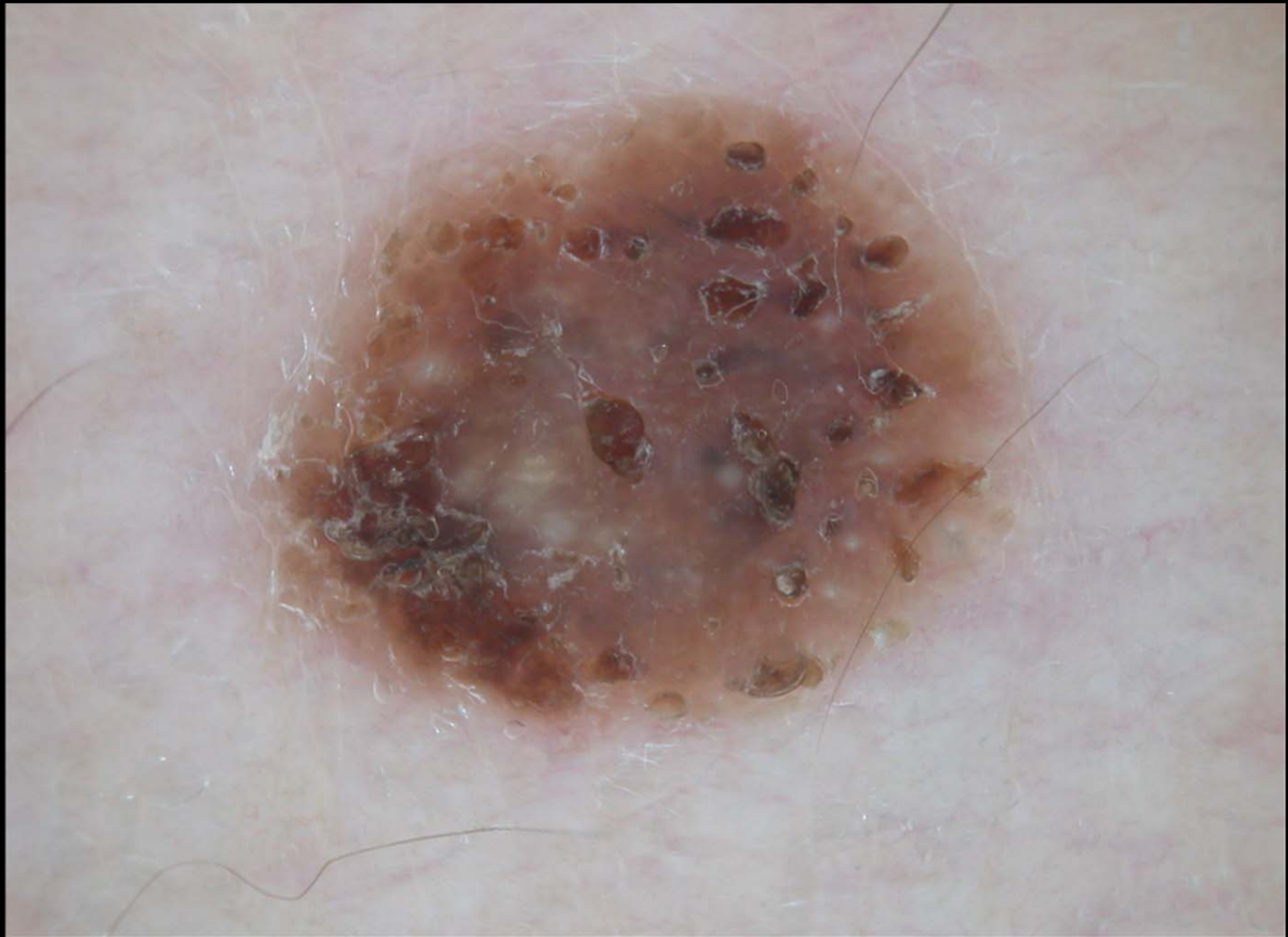








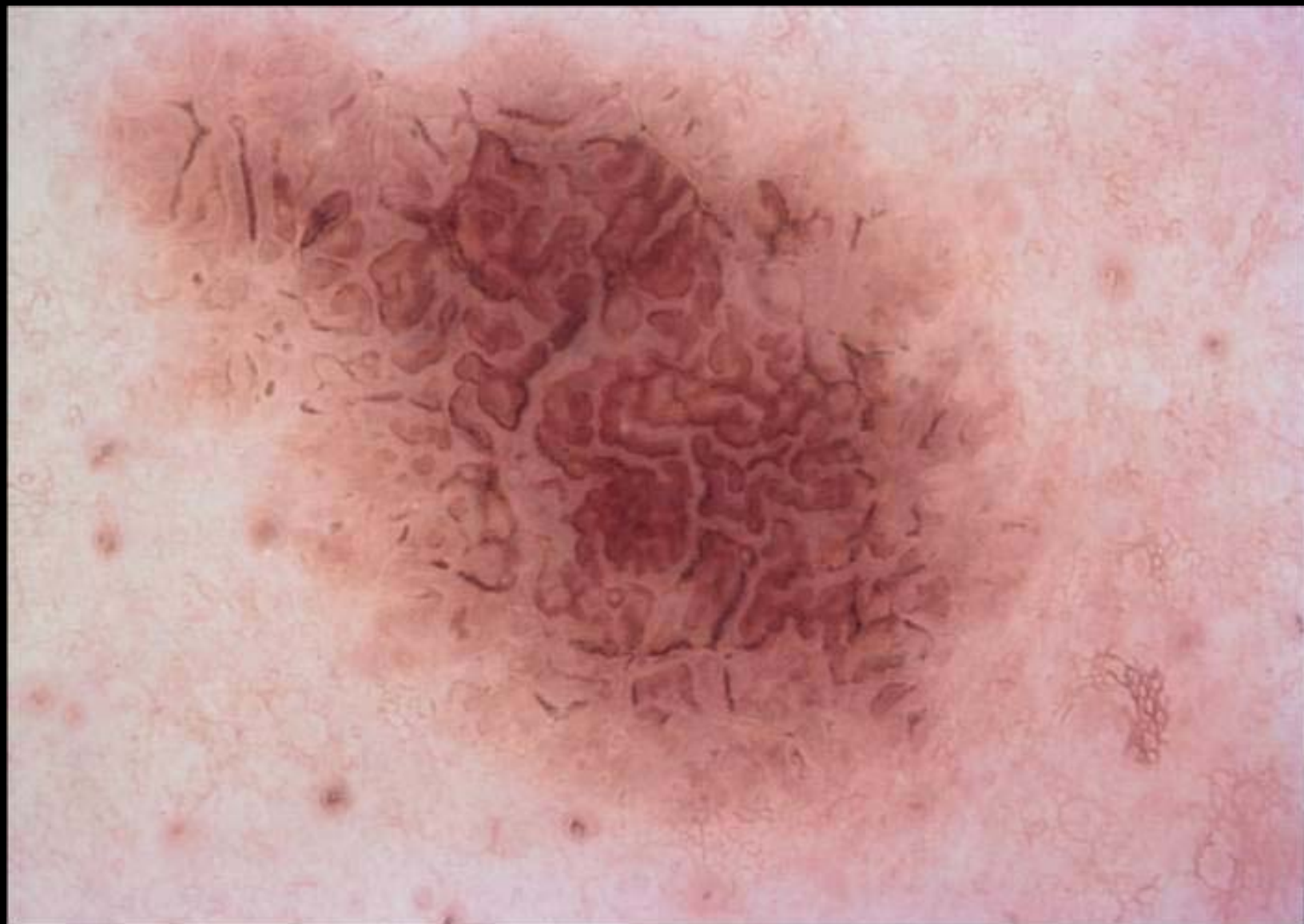




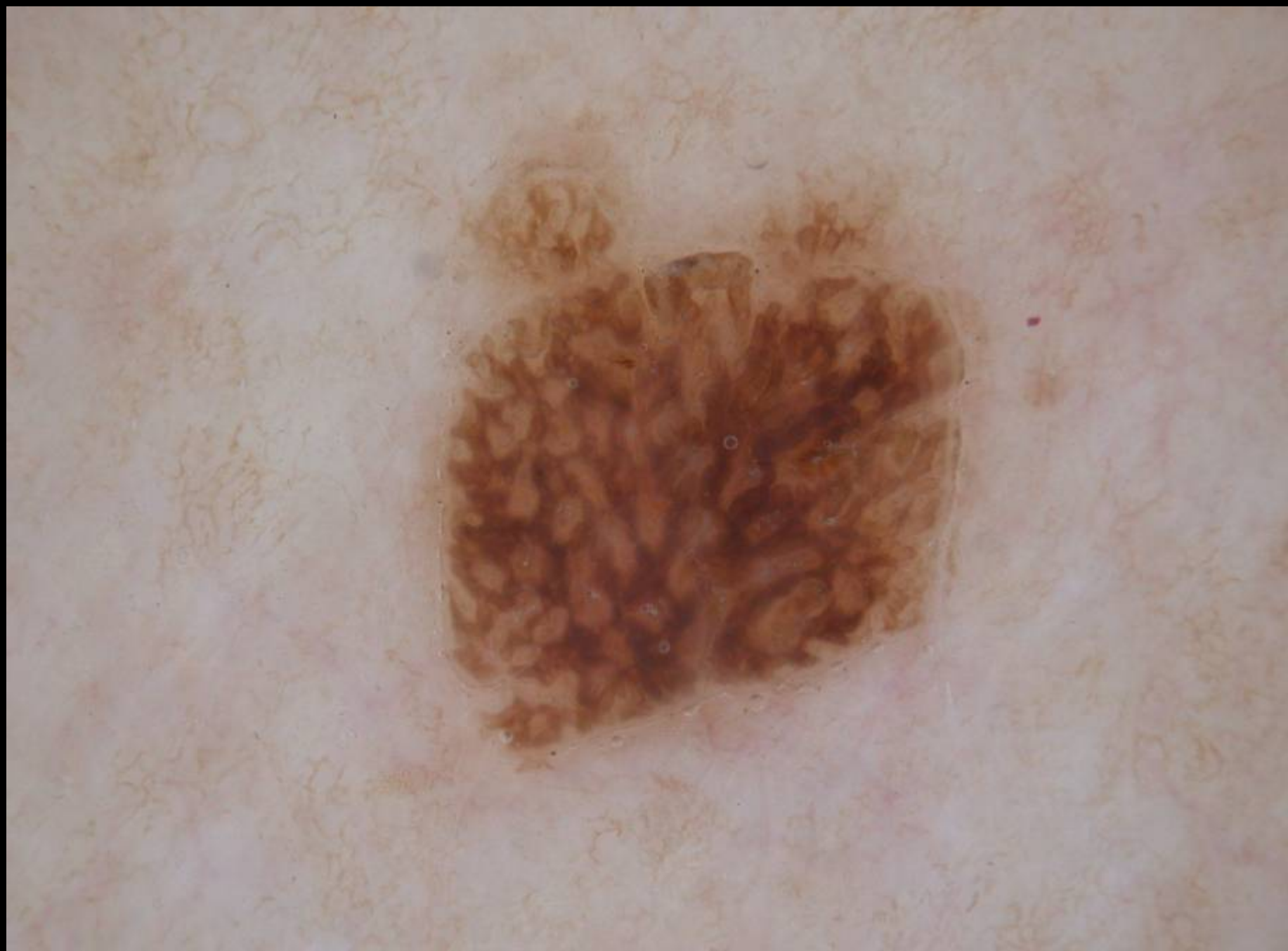


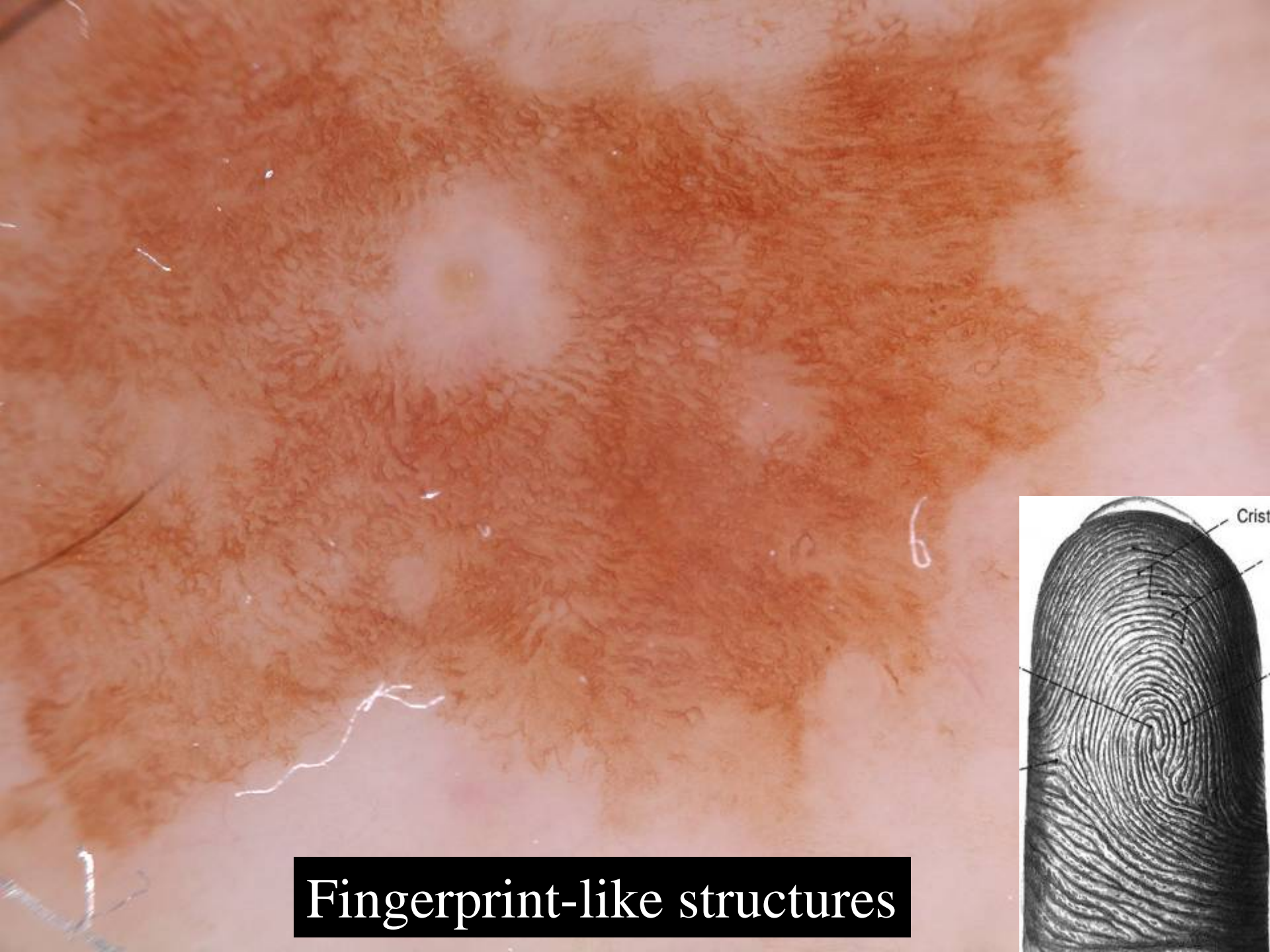
**Fissures and Ridges - Brain like structures**









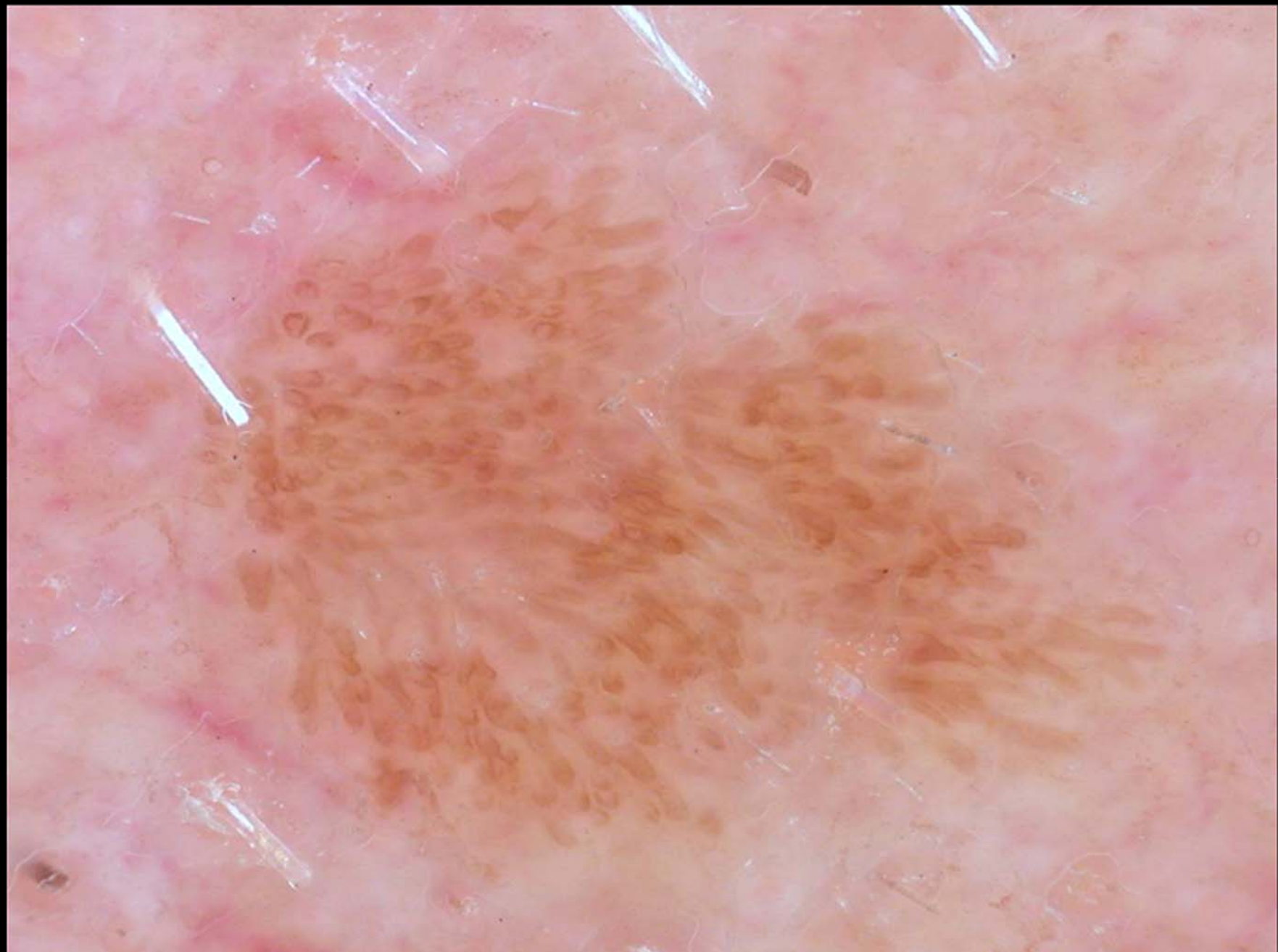


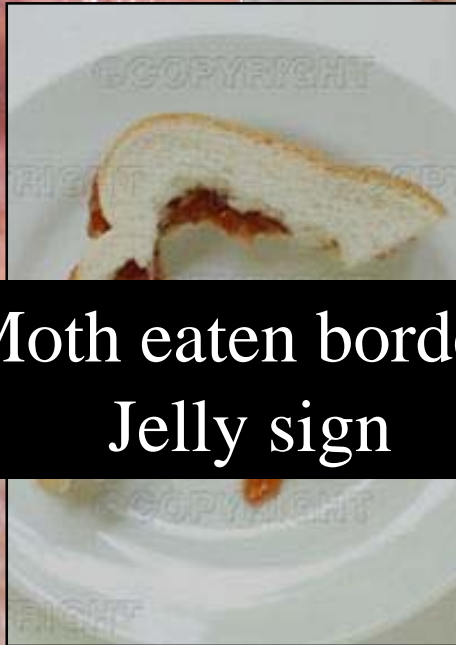
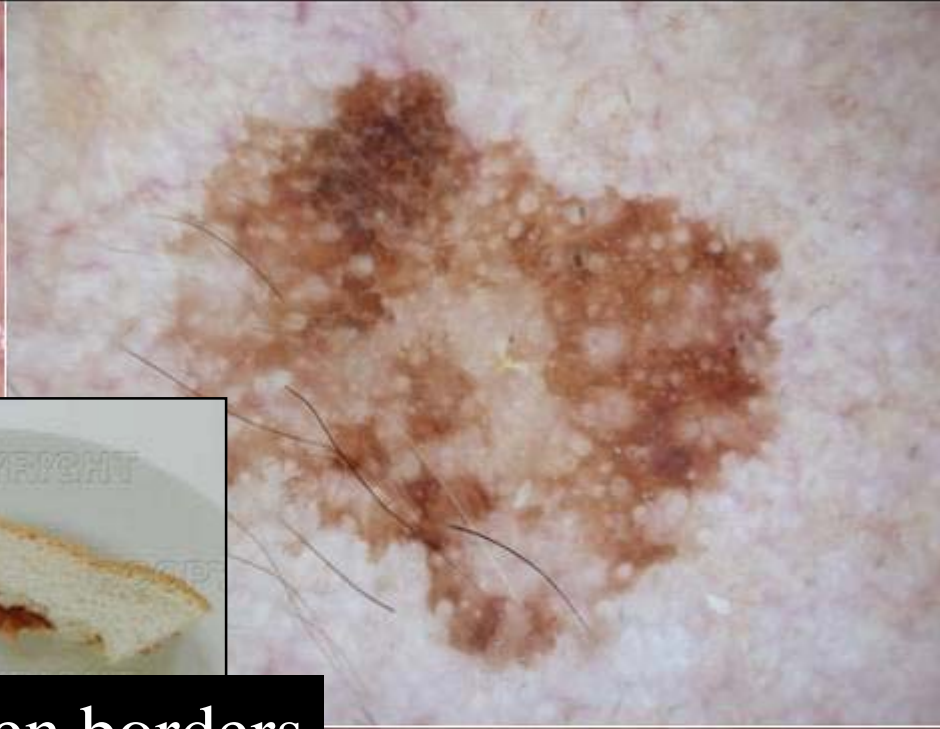
**Fingerprint-like structures**











**Moth eaten borders  
Jelly sign**



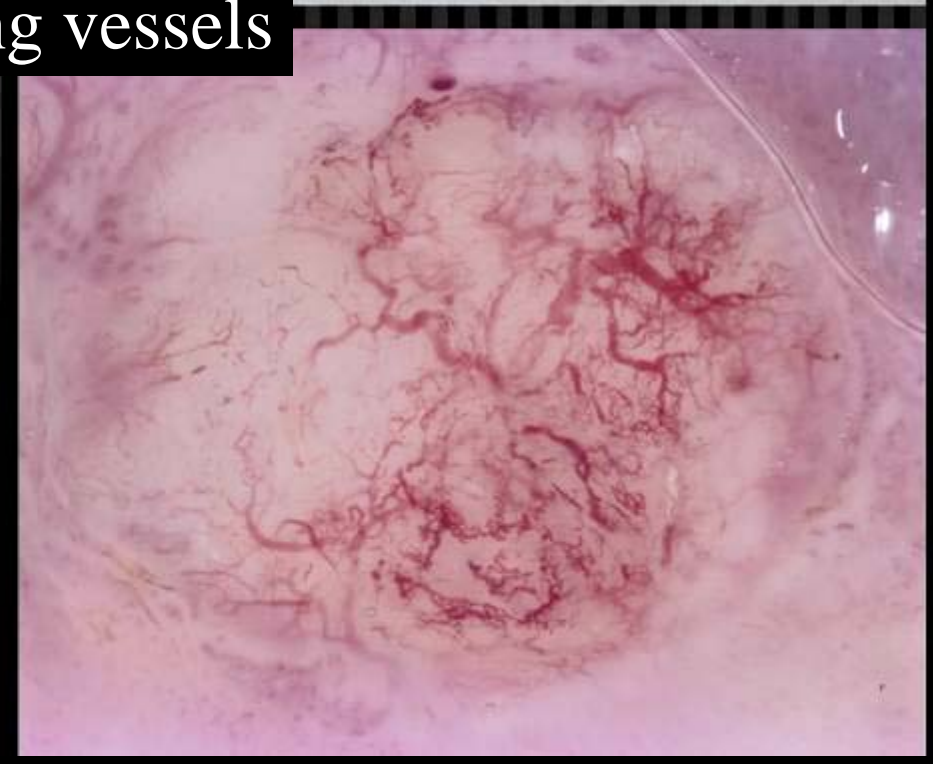
# Criteria for Basal cell carcinoma

- Arborizing vessels
- Multiple blue gray globules
- Large blue gray ovoid nests
- Leaf like areas
- Spoke wheel areas
- Ulceration(s)

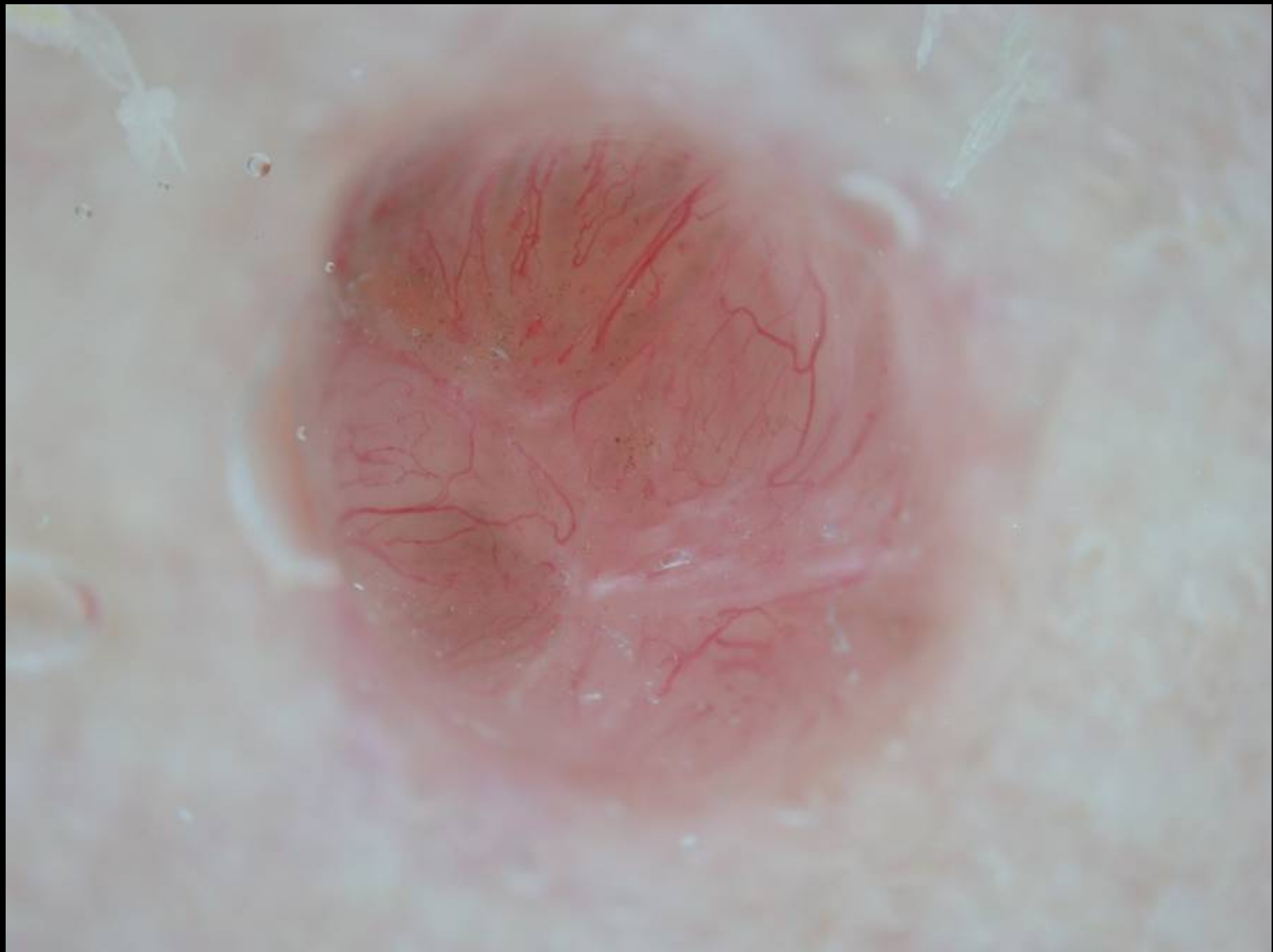
Blue gray blotches



Arborizing vessels









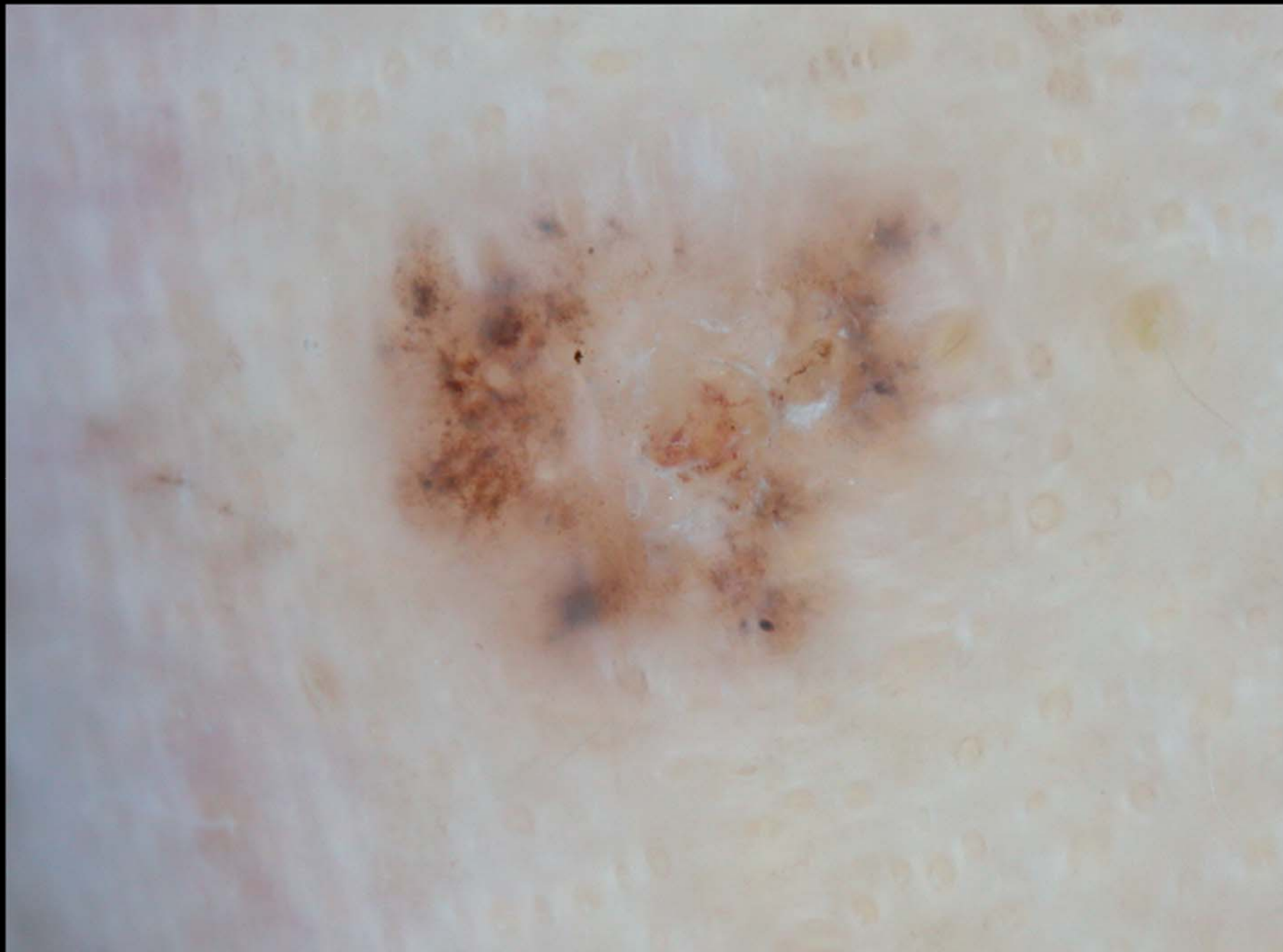




Multiple blue gray globules









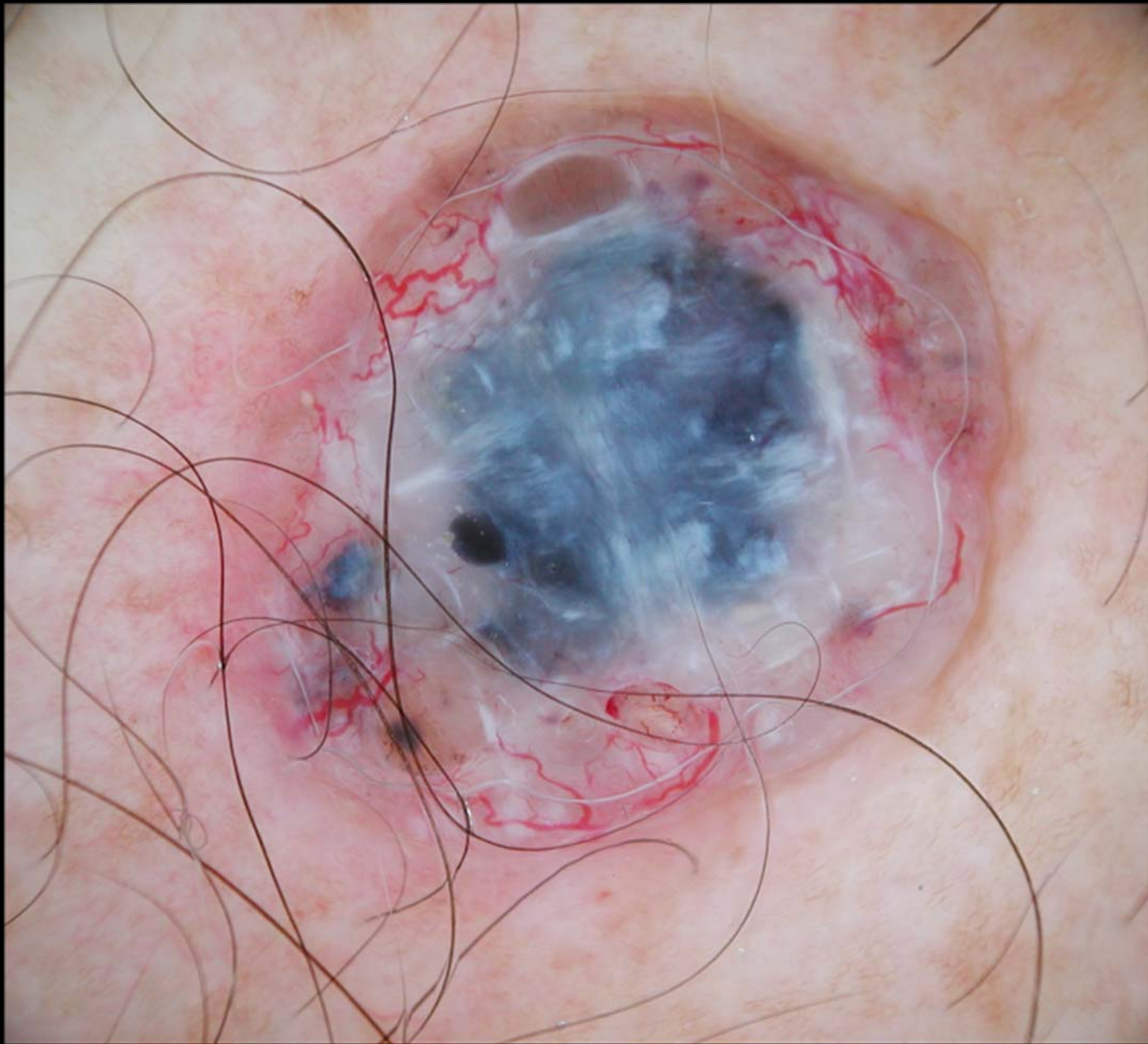




Large gray blue ovoid nests

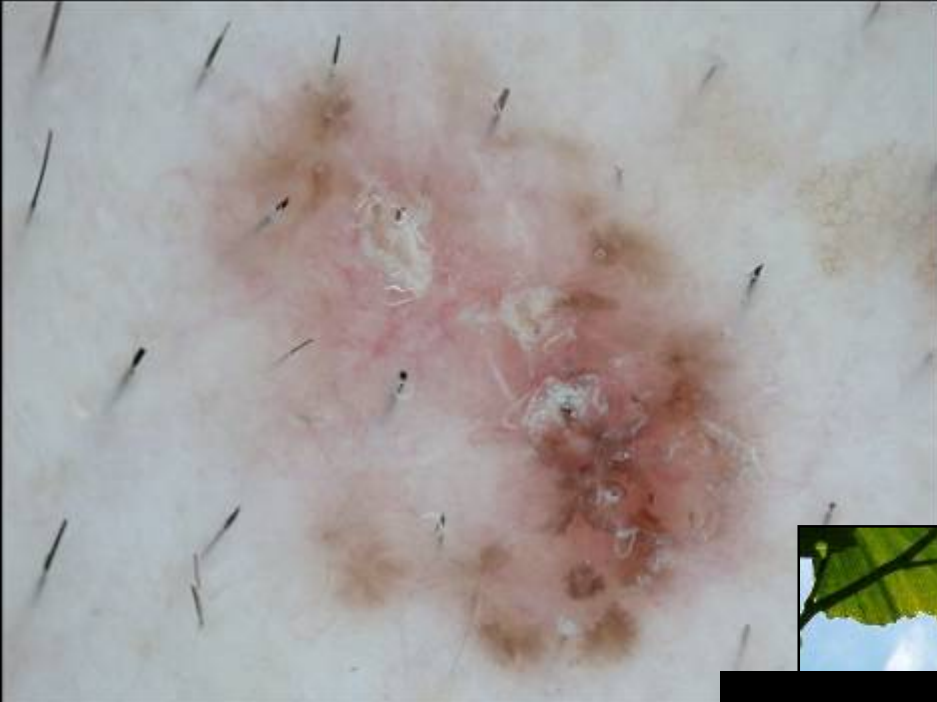












Leaf-like areas



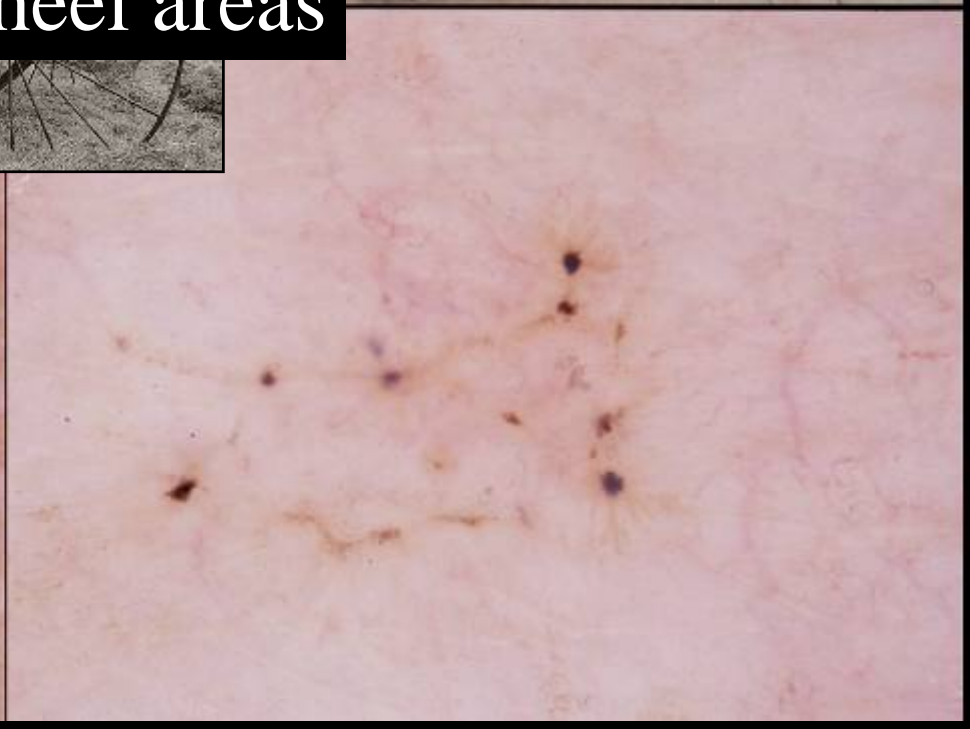








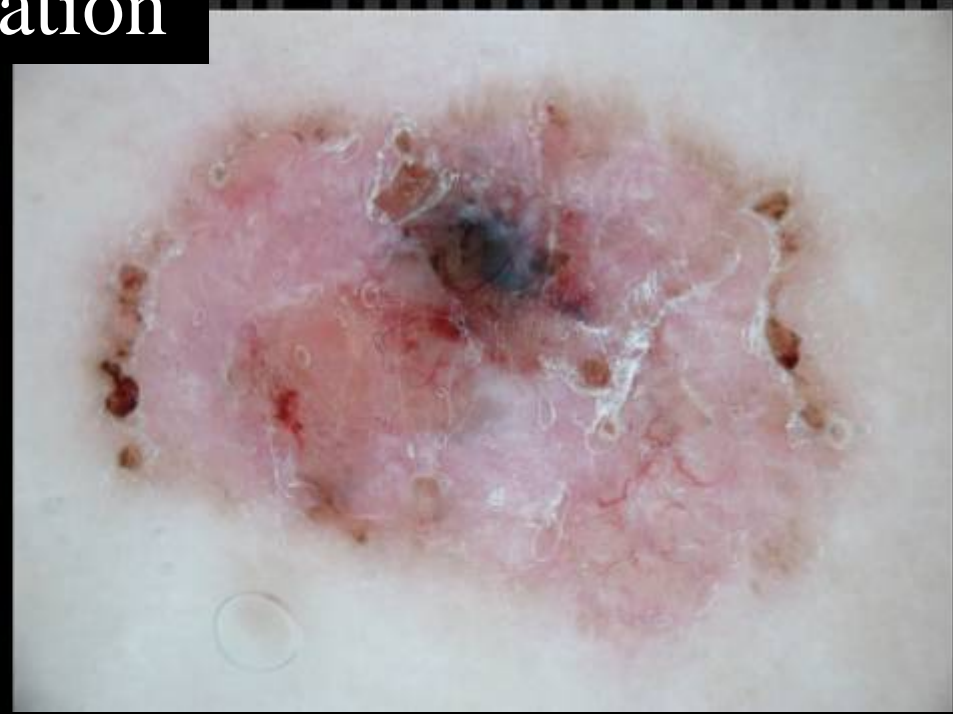
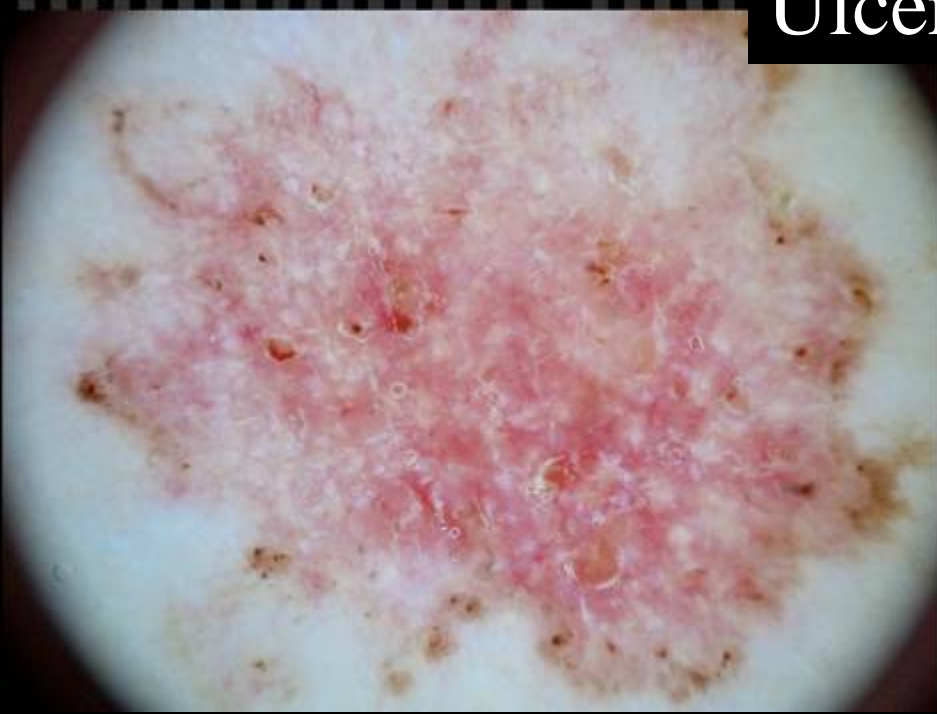
**Spoke-wheel areas**







Ulceration





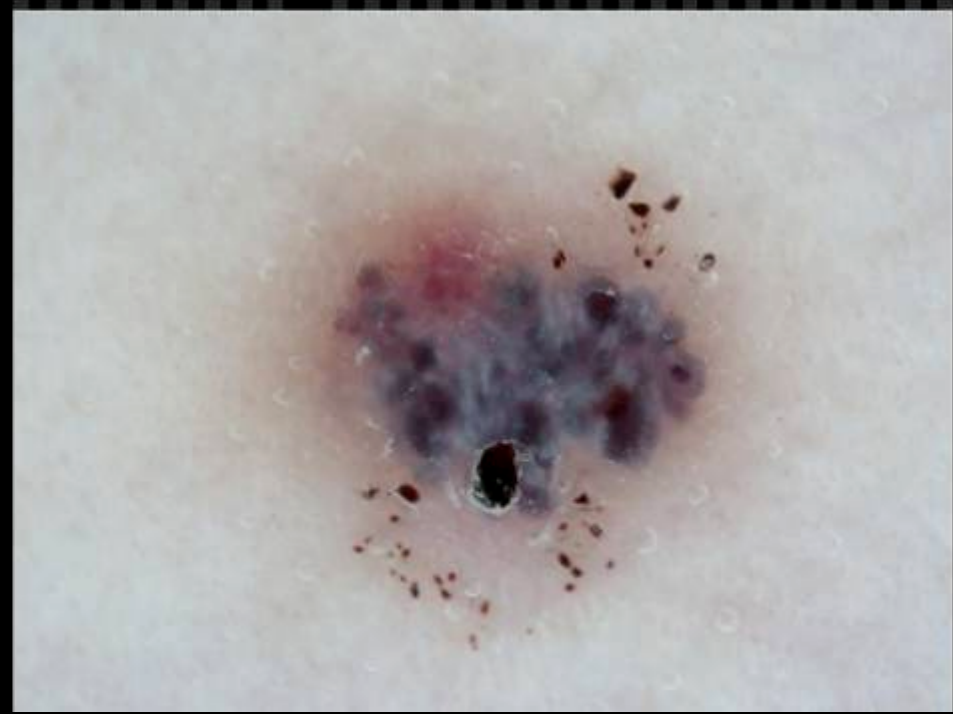
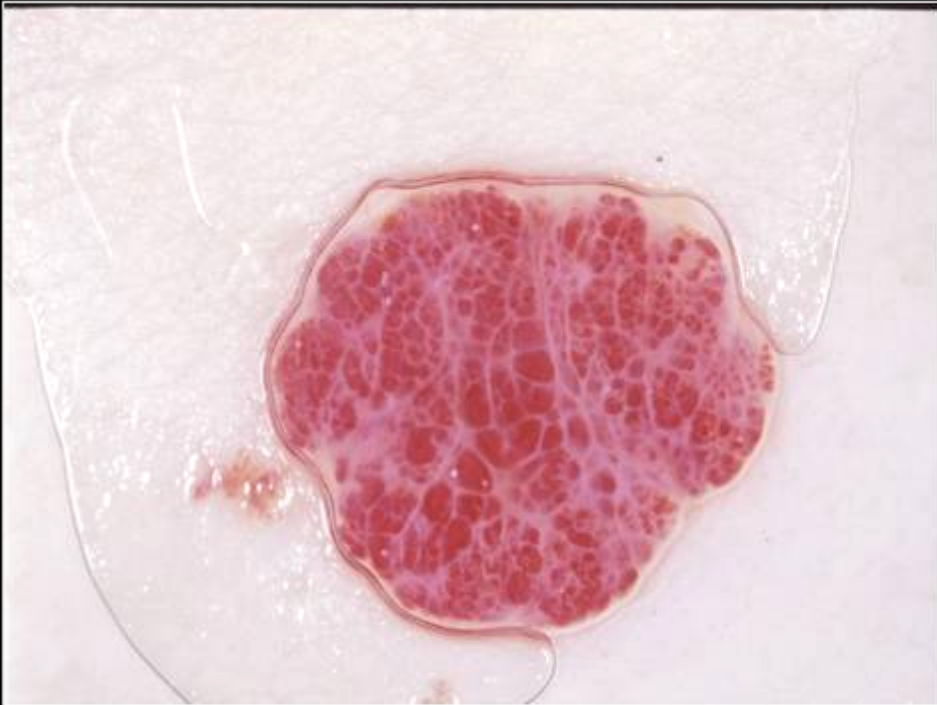


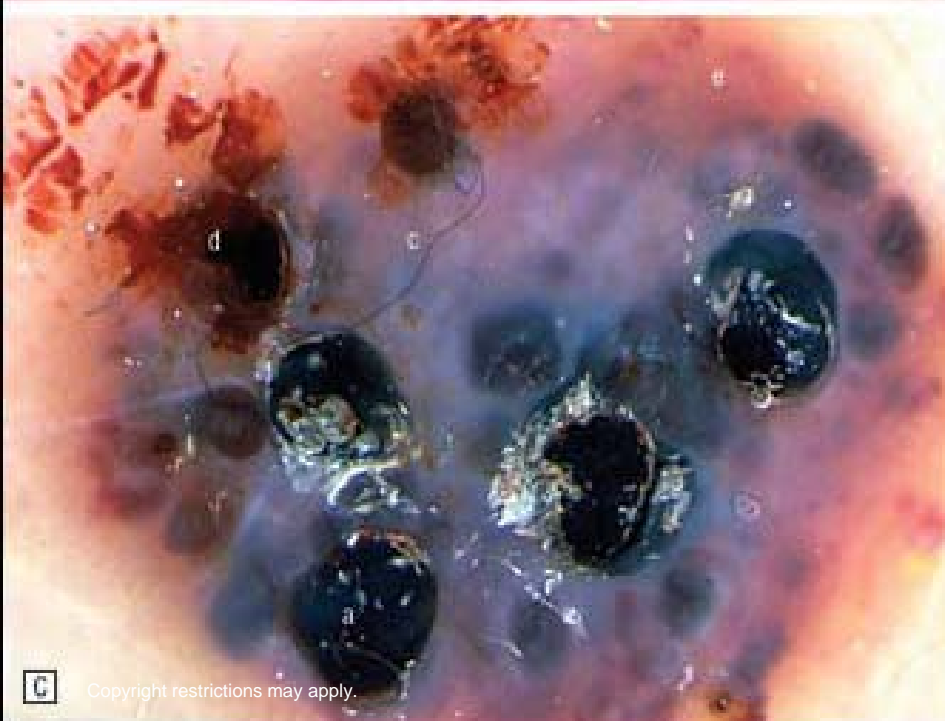
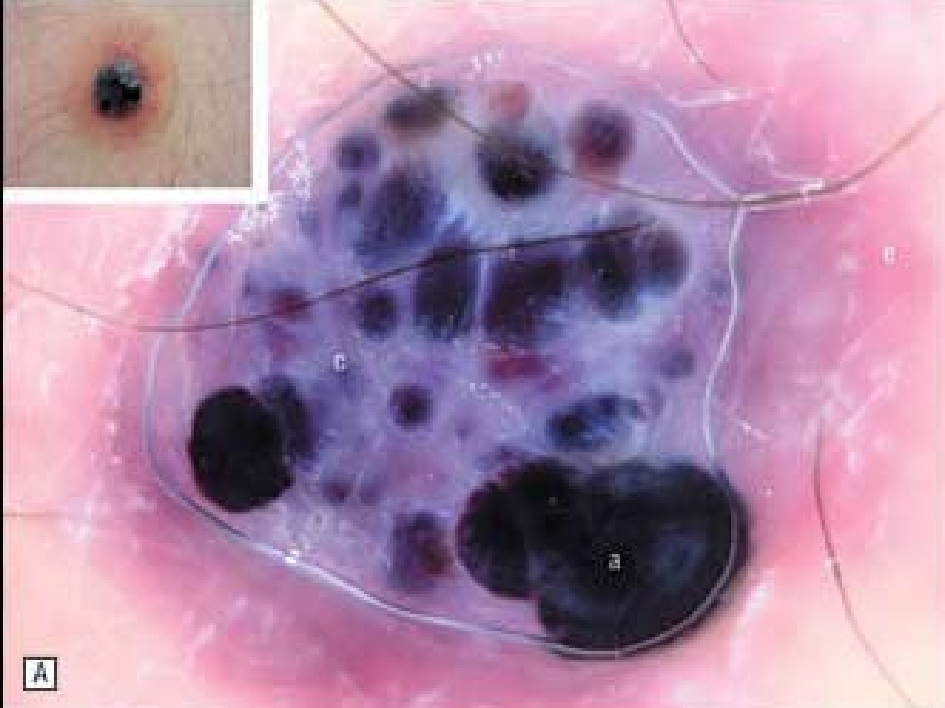




# Criteria for Vascular tumors

- red to blue lacunas
- red-blue-black color
- Blood spots







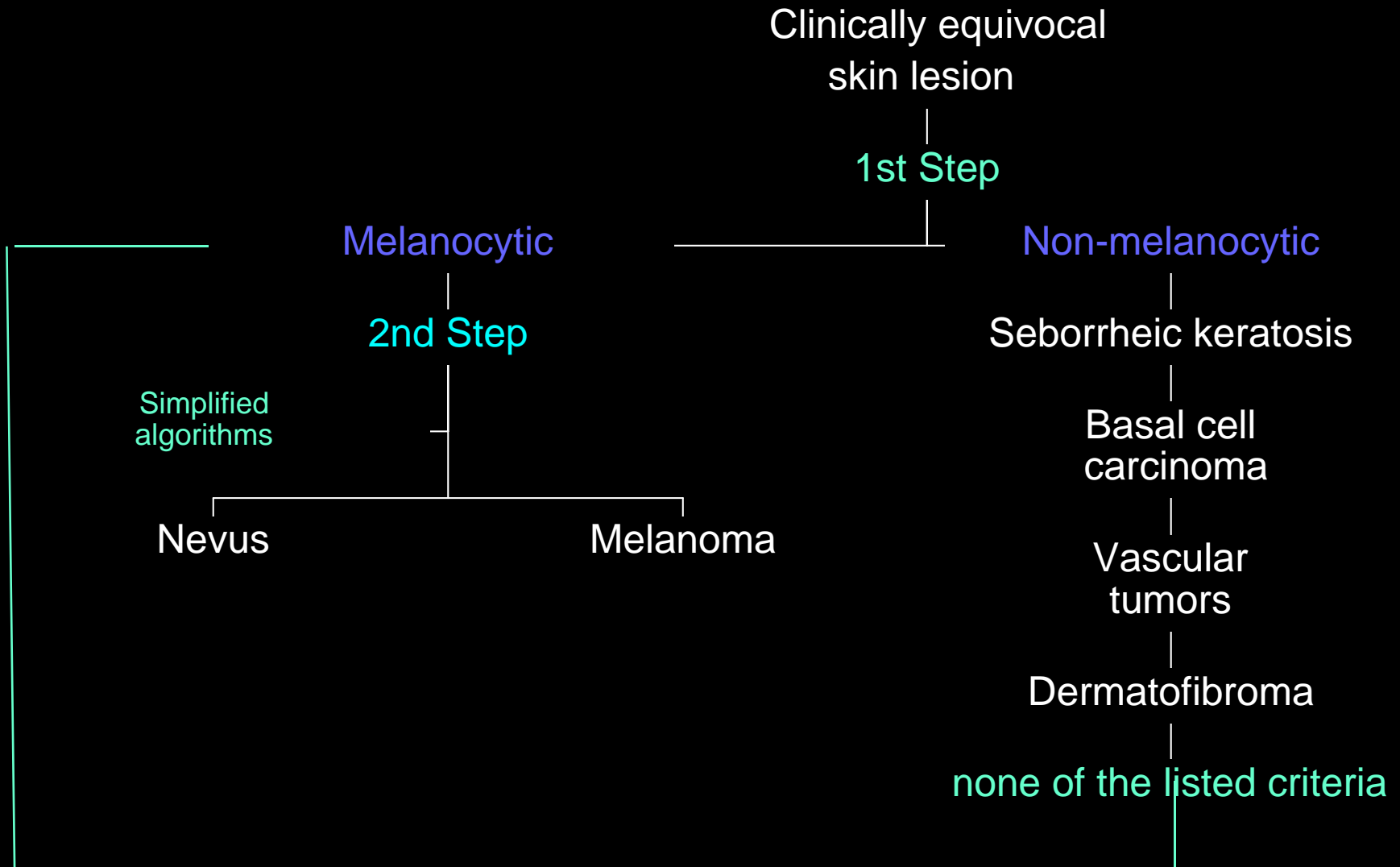








# A Stepwise Approach





**Melanoma lacking any of the criteria established for diagnosing melanocytic or non-melanocytic skin lesion**









