

# Introduction to Dermoscopy

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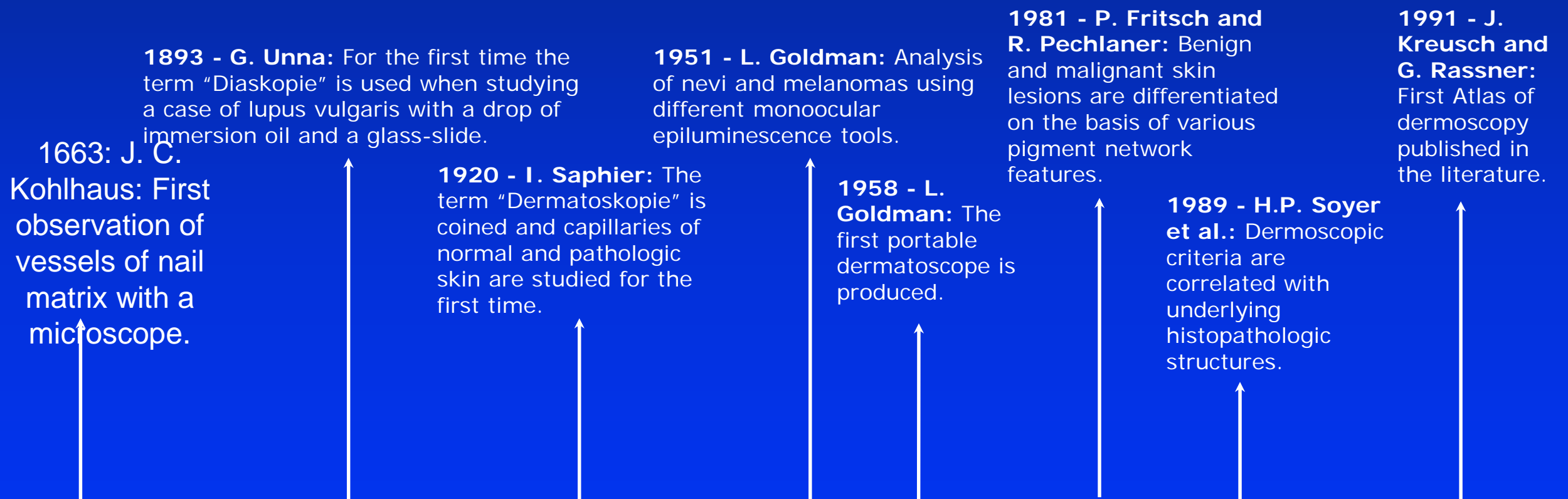
# Overview

- What is dermoscopy
- Brief history
- Types of dermoscopy
- General approach to lesion of interest
  - 2 step algorithm
  - 3-point checklist
- Practice
- Conclusions

# What is Dermoscopy

- Non-invasive diagnostic technique for the in-vivo observation of pigmented skin lesions.
- Permits the recognition of morphologic structures not visible by the naked eye.

# History



# Type of Dermoscopy

- Non-polarized light
  - Requires liquid interface
  - Requires contact w/ skin
- Polarized light
  - Non-contact
  - Contact

# Differences: NPD & PD

- Colors
  - Sharper w/ NPD
  - Brown/Blue darker w/ PD
  - Reds better seen w/ PD

# Differences: NPD & PD

- Structures
  - Vasculature better seen w/ PNCD
  - Milia-like cysts (horn cysts) better w/ NPD

# Differences: NPD & PD

- Features
  - Vessel shape better w/ PNCD
  - “Peppering” better w/ NPD





# Your Dermatoscope

# Technique

- Interface fluid (mineral oil, water, alcohol)
- Roll contact plate
- Eye close to eye piece
- Adjust focusing ring

# Approach to Pigmented Lesions

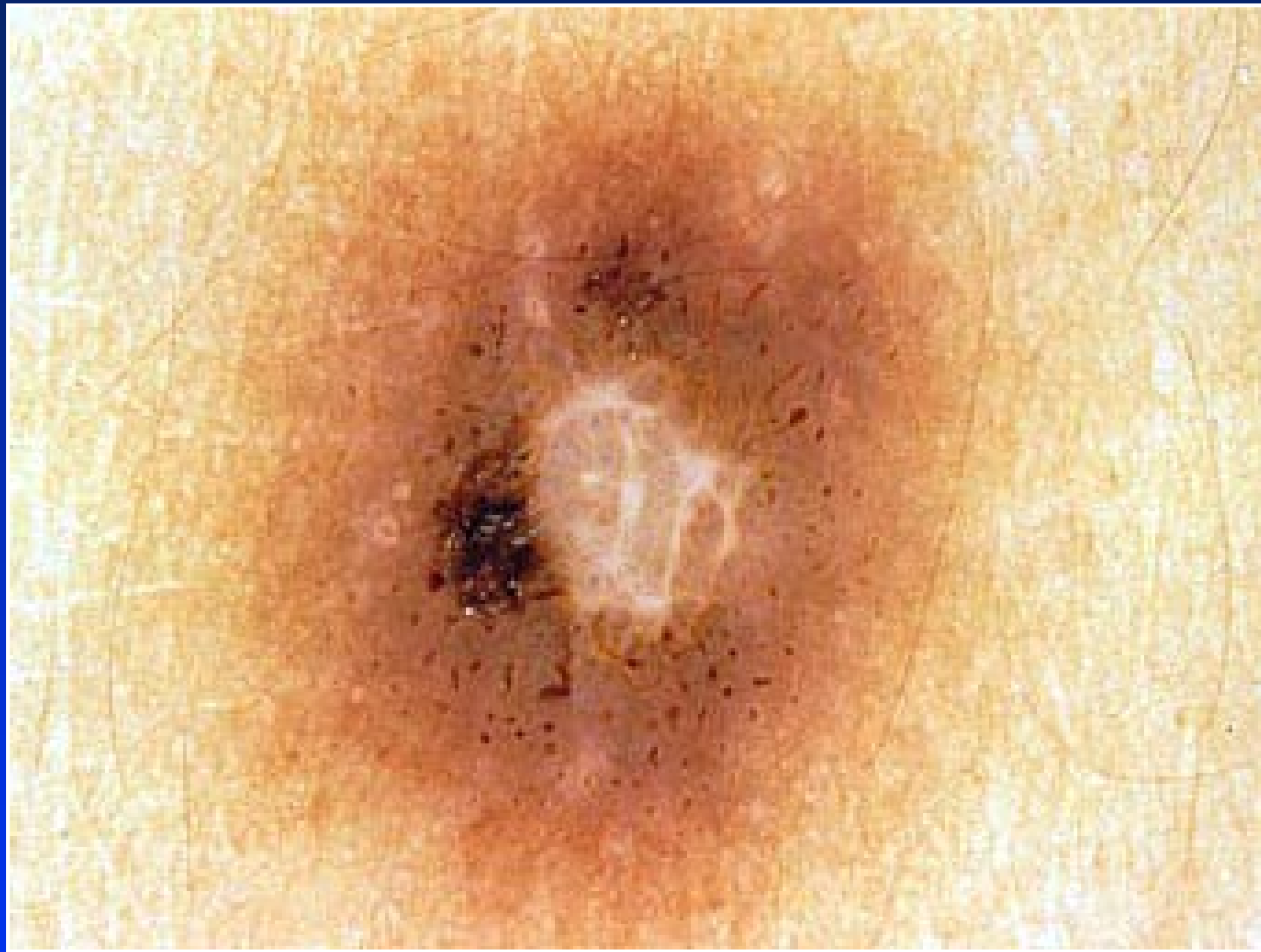
- 2 Step Algorithm
  1. Melanocytic vs. Non-melanocytic
  2. Benign vs. Malignant

# Step 1: Melanocytic vs. Non-Melanocytic

- Features of melanocytic lesions?
  - Pigment network



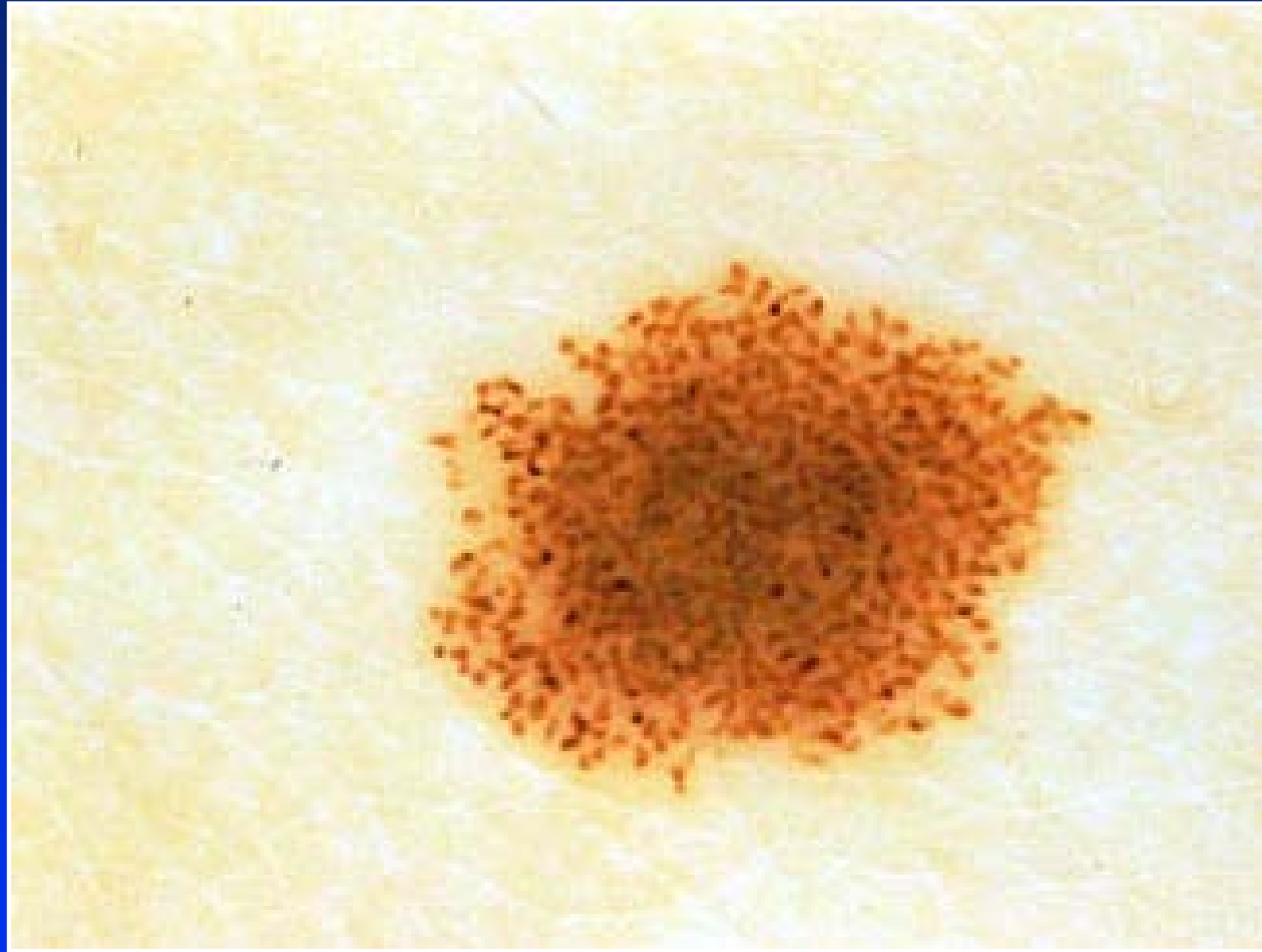
**Reticular Network**



**Dermatofibroma**

# Step 1: Melanocytic vs. Non-Melanocytic

- Features of melanocytic lesions?
  - Pigment network
  - Aggregated globules

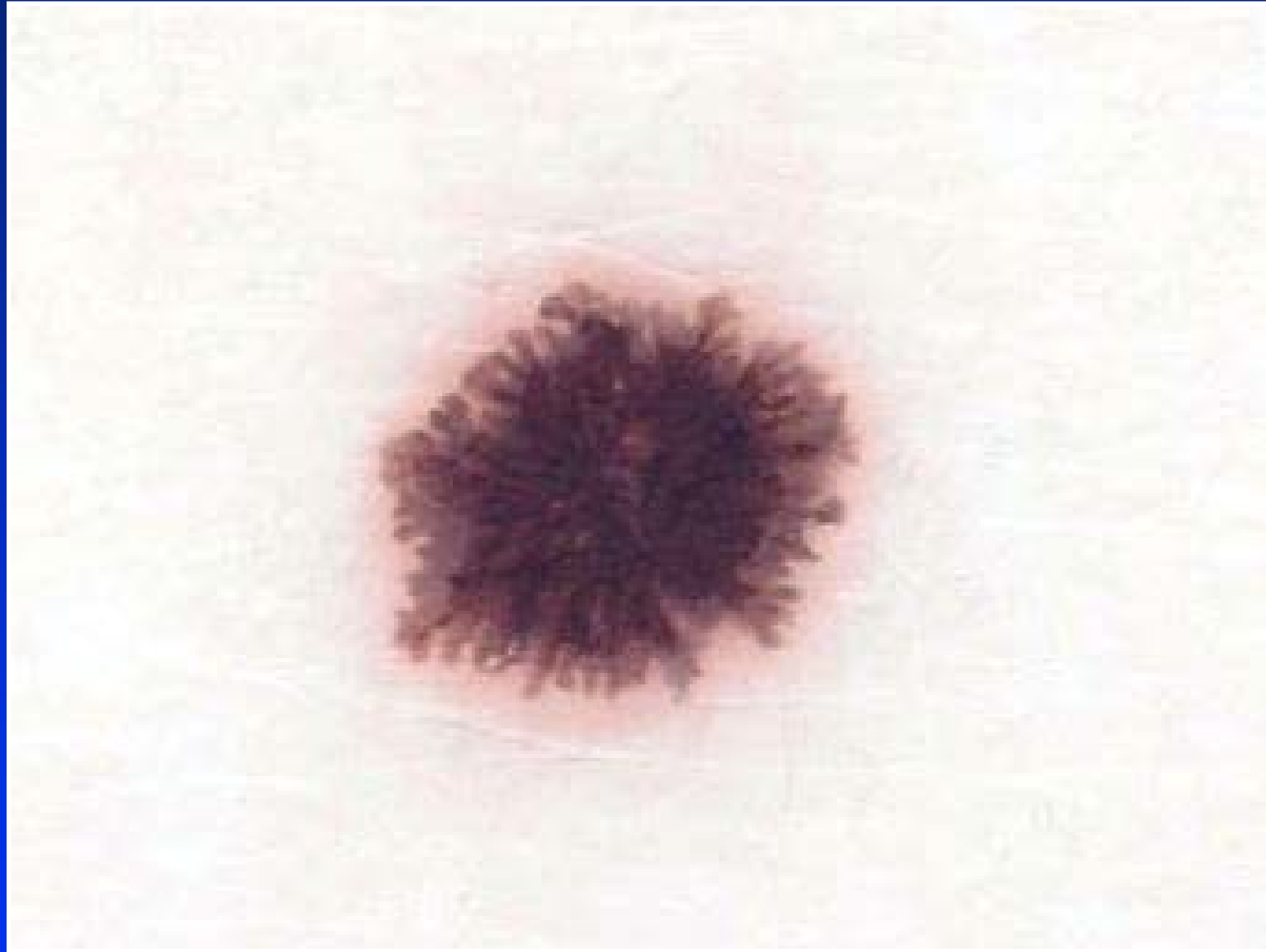


Aggregated Globules



# Step 1: Melanocytic vs. Non-Melanocytic

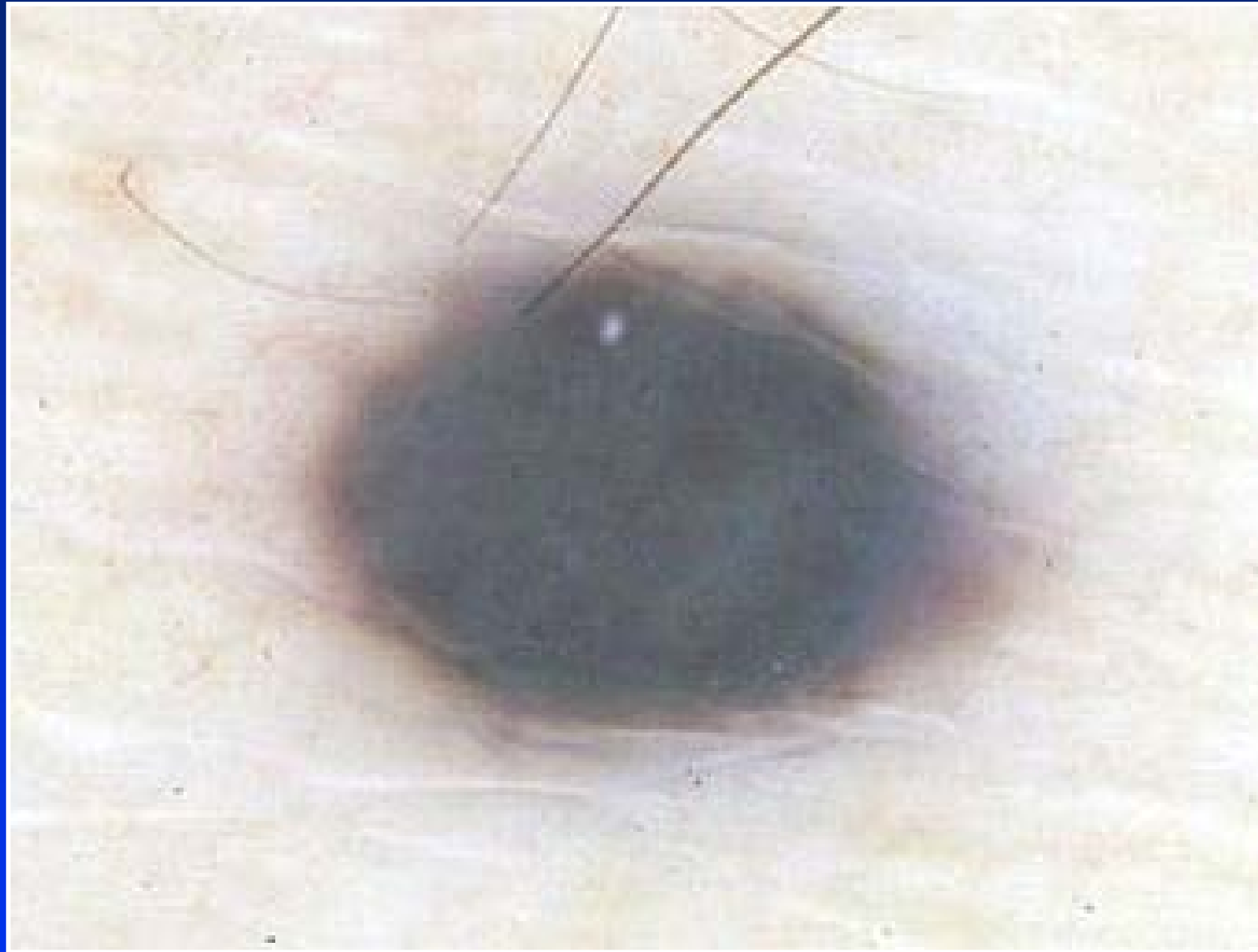
- Features of melanocytic lesions?
  - Pigment network
  - Aggregated globules
  - Branched streaks



**Branched Streaks**

# Step 1: Melanocytic vs. Non-Melanocytic

- Features of melanocytic lesions?
  - Pigment network
  - Aggregated globules
  - Branched streaks
  - Homogenized blue



Homogenous Blue

# Step 1: Melanocytic vs. Non-Melanocytic

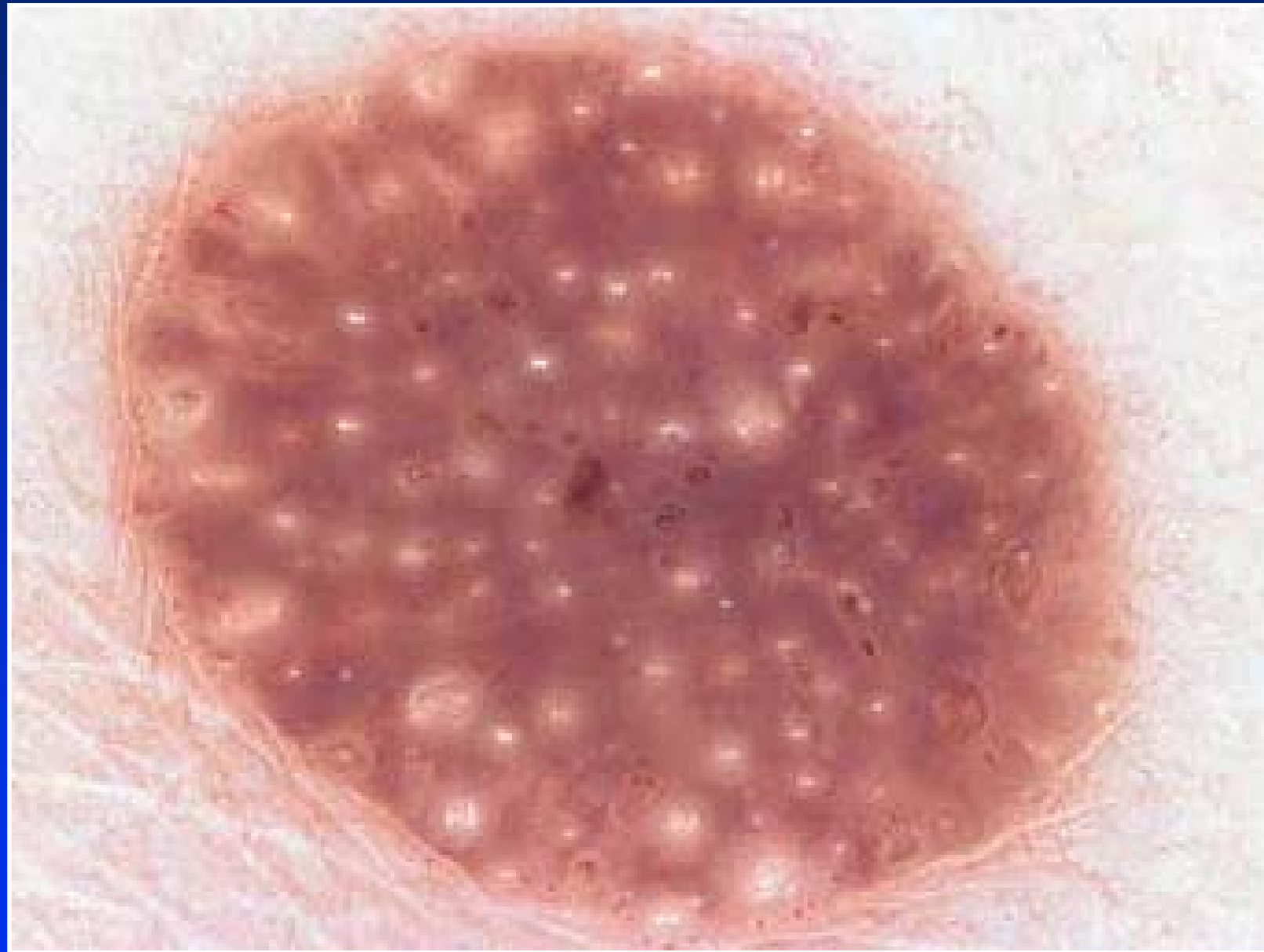
- Features of melanocytic lesions?
  - Pigment network
  - Aggregated globules
  - Branched streaks
  - Homogenized blue
  - Parallel pattern (acral)



Parallel Pattern

# Step 1: Melanocytic vs. Non-Melanocytic

- Features of seborrheic keratosis?
  - Milia-like cysts



**Milia-Like Cysts**



# Step 1: Melanocytic vs. Non-Melanocytic

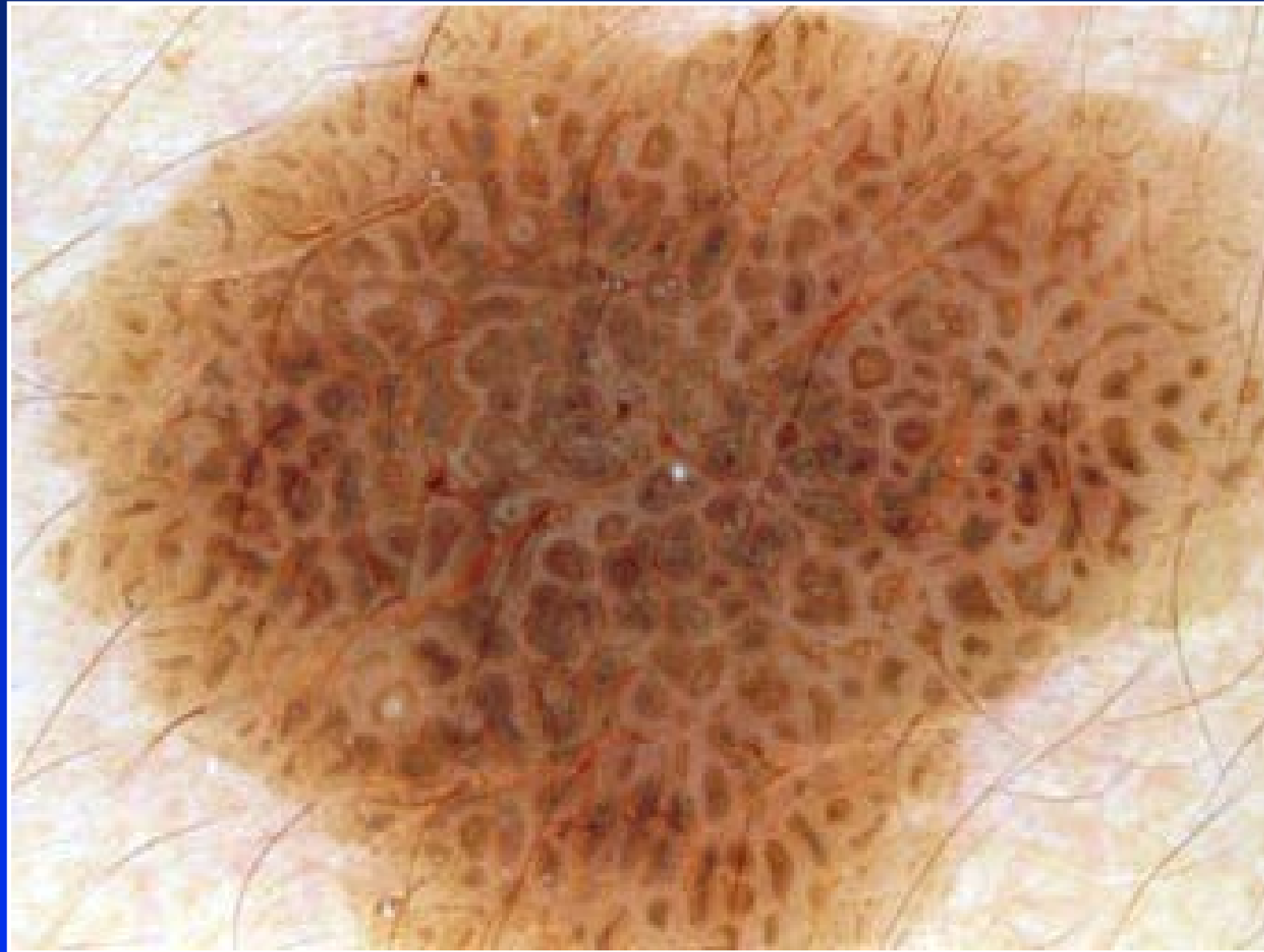
- Features of seborrheic keratosis?
  - Milia-like cysts
  - Comedo-like openings



Comedo-like  
Openings

# Step 1: Melanocytic vs. Non-Melanocytic

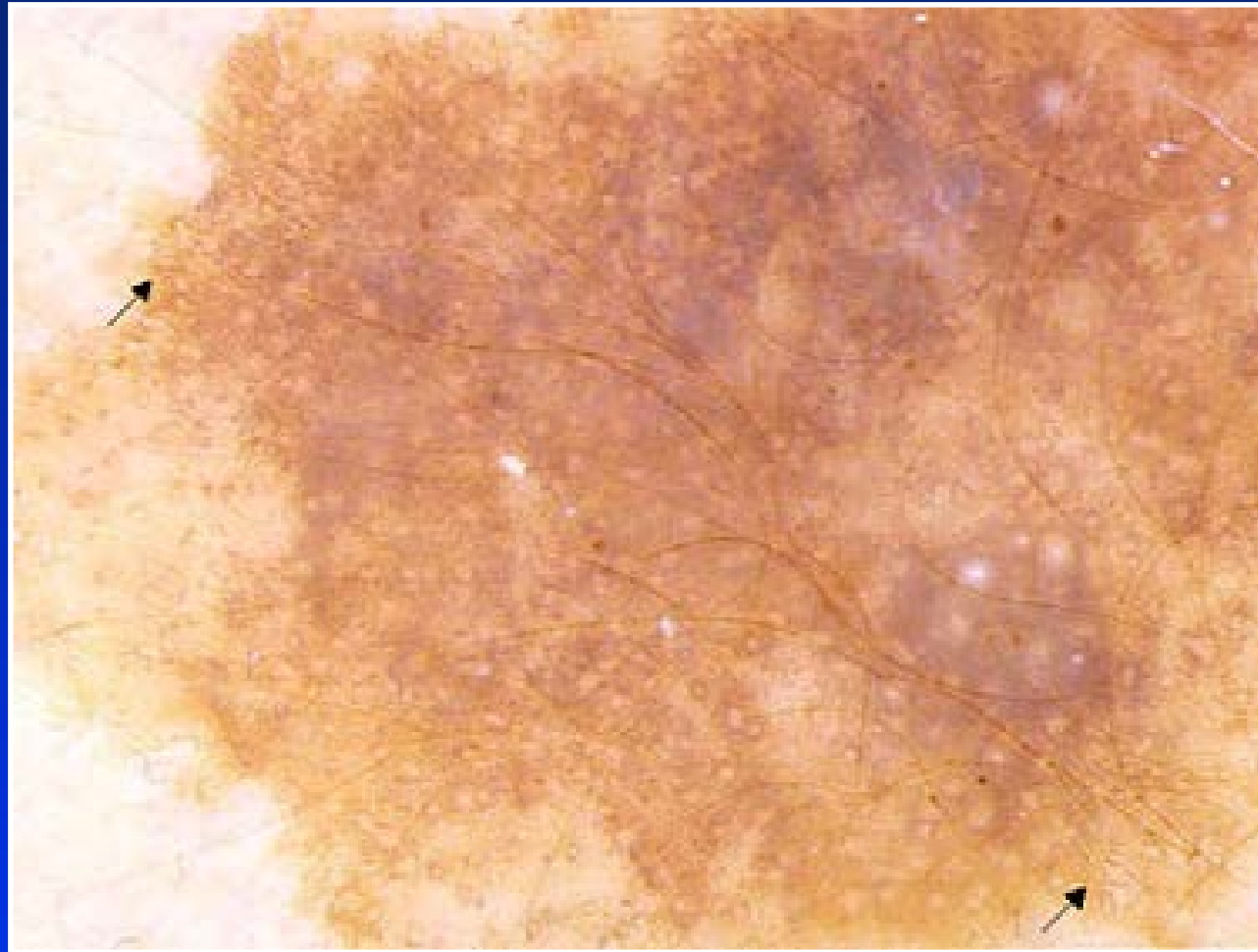
- Features of seborrheic keratosis?
  - Milia-like cysts
  - Comedo-like openings
  - Fissures/ridges



**Fissures/Ridges**

# Step 1: Melanocytic vs. Non-Melanocytic

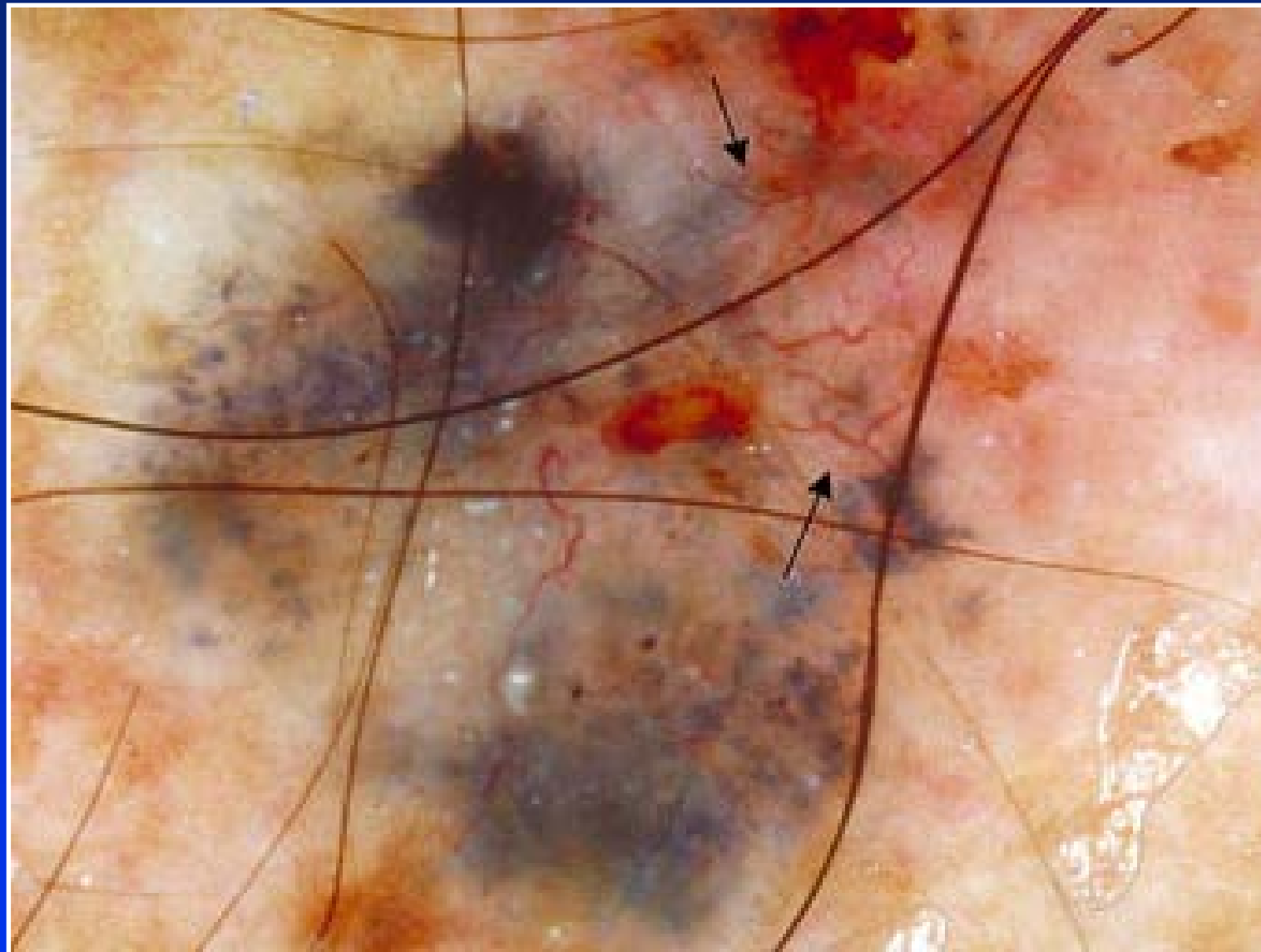
- Features of seborrheic keratosis?
  - Milia-like cysts
  - Comedo-like openings
  - Fissures/ridges
  - Light brown fingerprint-like structures



# Fingerprint-like Structures

# Step 1: Melanocytic vs. Non-Melanocytic

- Features of Basal Cell Carcinoma?
  - Absent pigment network & one of the following:
    - Arborizing vessels



# Arborizing Vessels



# Step 1: Melanocytic vs. Non-Melanocytic

- Features of Basal Cell Carcinoma?
  - Absent pigment network & one of the following:
    - Arborizing vessels
    - Leaf-like structures



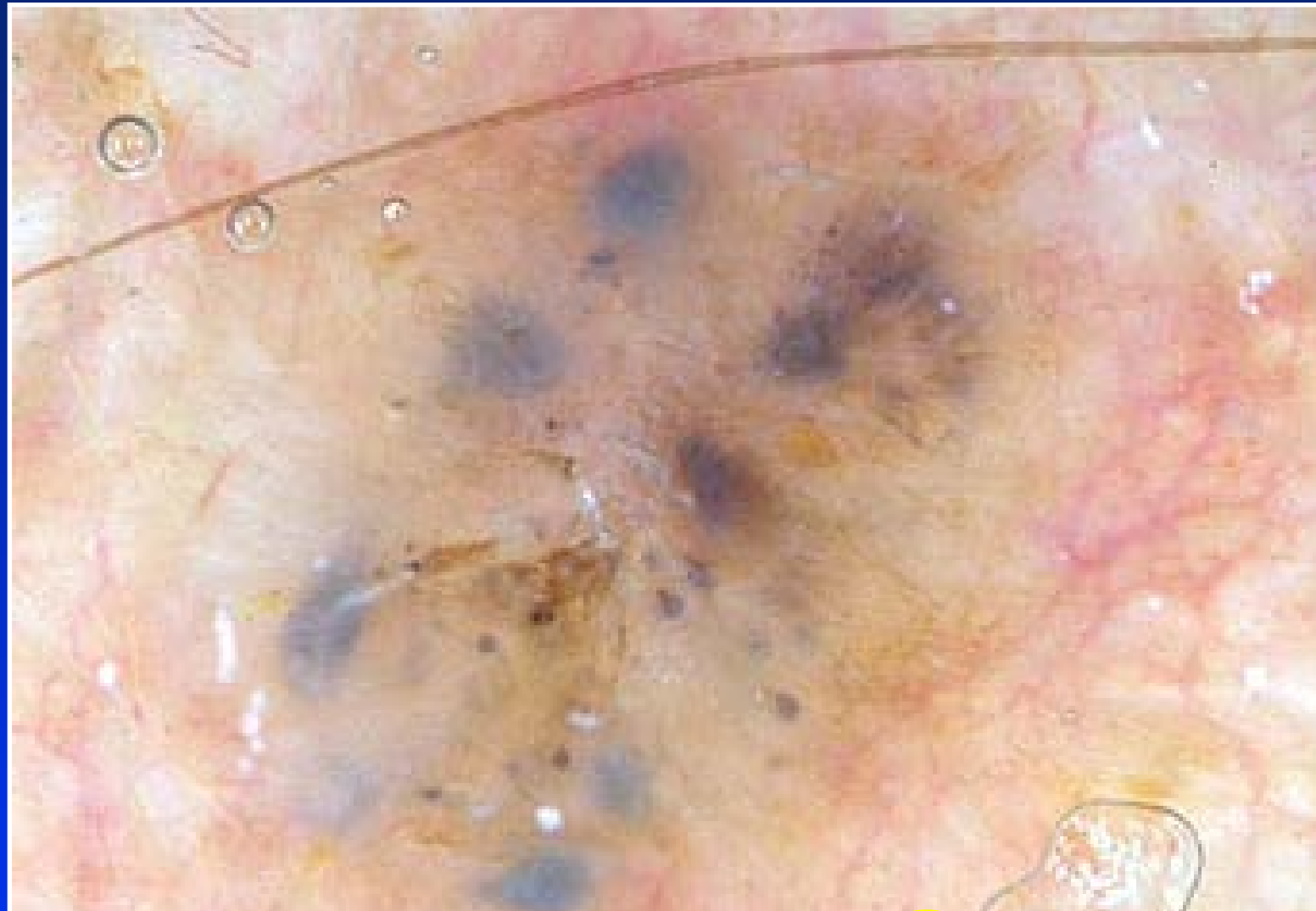
# Leaf-like Structures



# Leaf-like Structures

# Step 1: Melanocytic vs. Non-Melanocytic

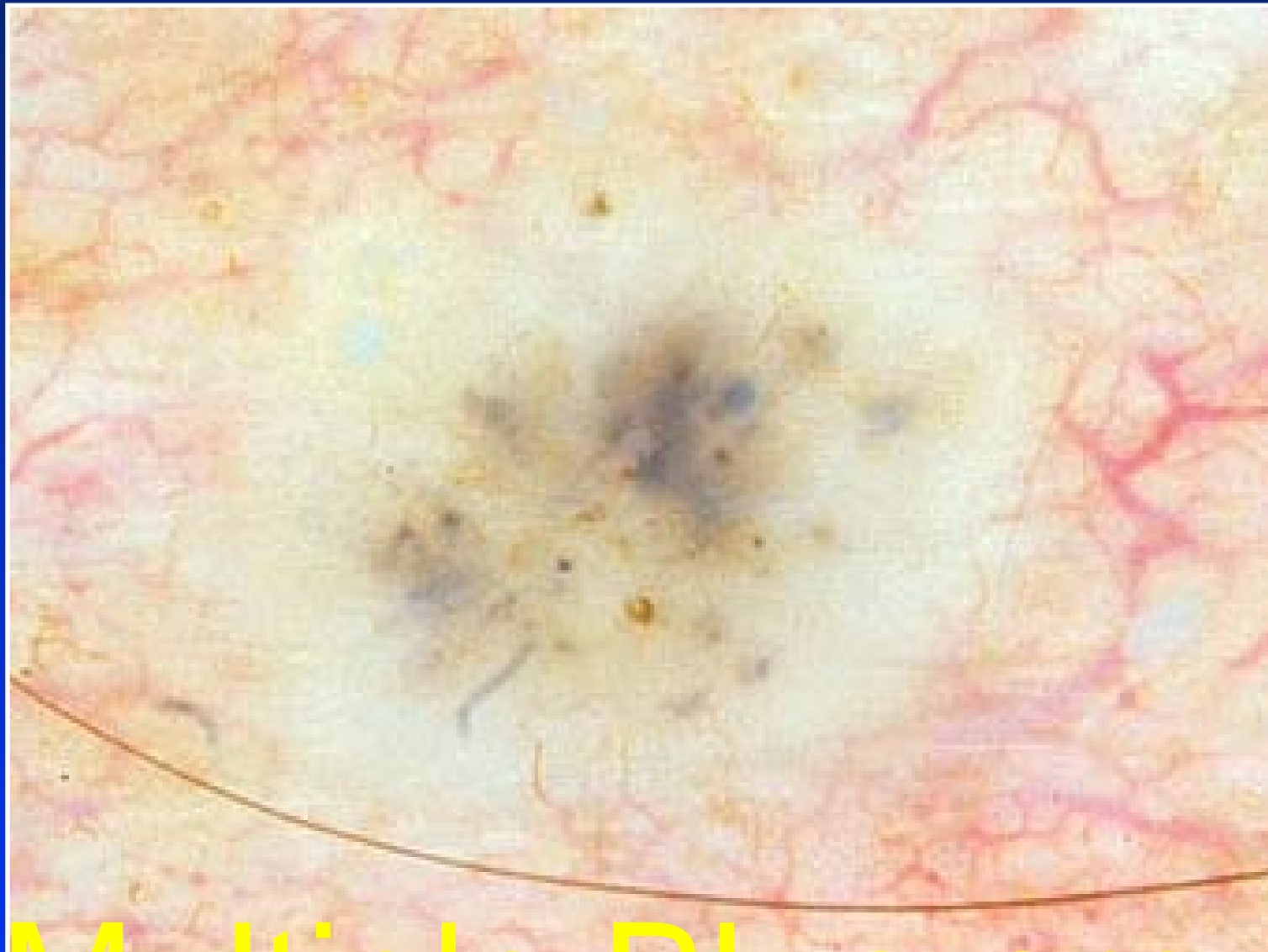
- Features of Basal Cell Carcinoma?
  - Absent pigment network & one of the following:
    - Arborizing vessels
    - Leaf-like structures
    - Large blue-grey ovoid nests



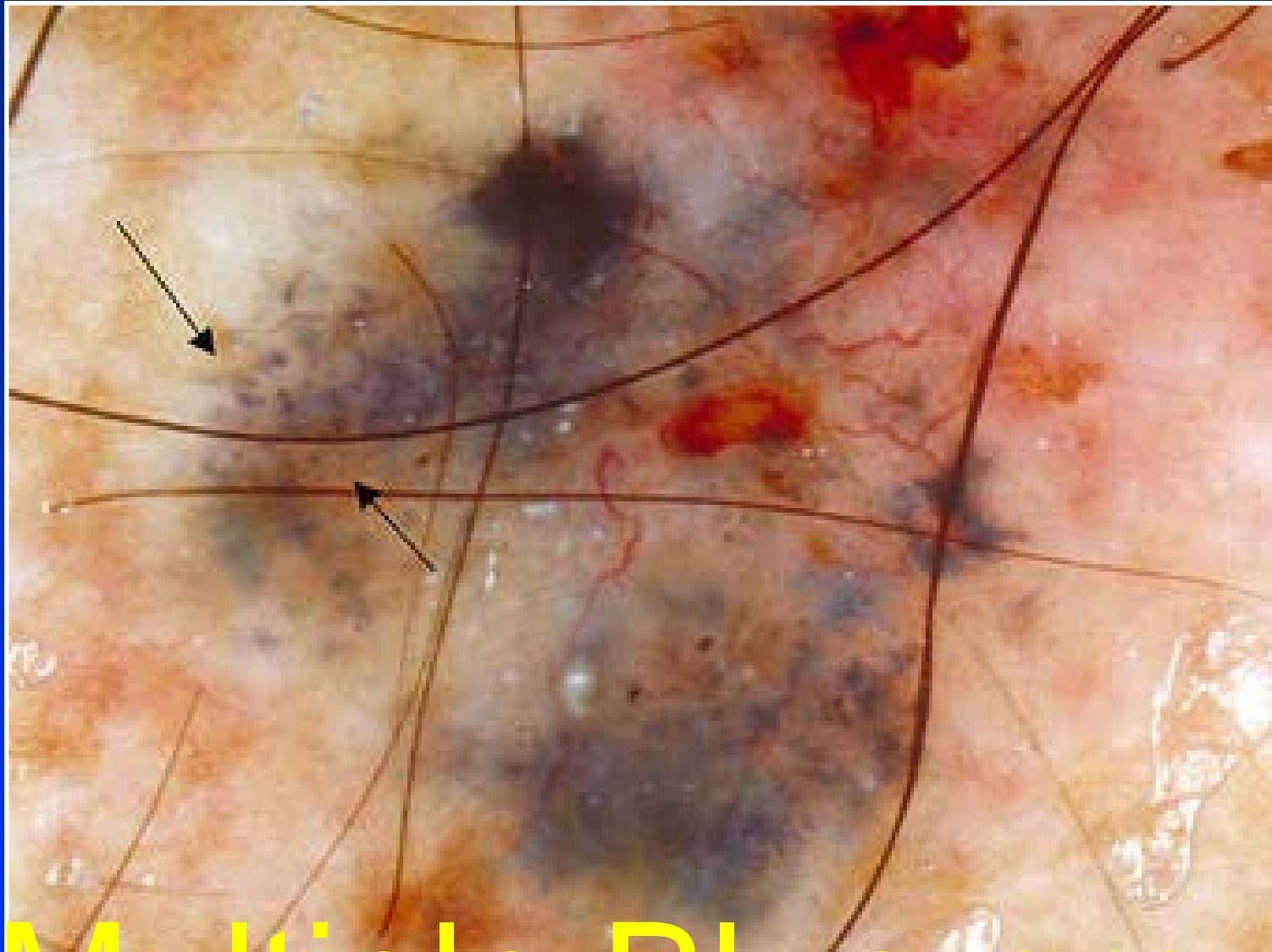
Blue-grey Ovoid  
Nests

# Step 1: Melanocytic vs. Non-Melanocytic

- Features of Basal Cell Carcinoma?
  - Absent pigment network & one of the following:
    - Arborizing vessels
    - Leaf-like structures
    - Large blue-grey ovoid nests



Multiple Blue-grey  
Globules

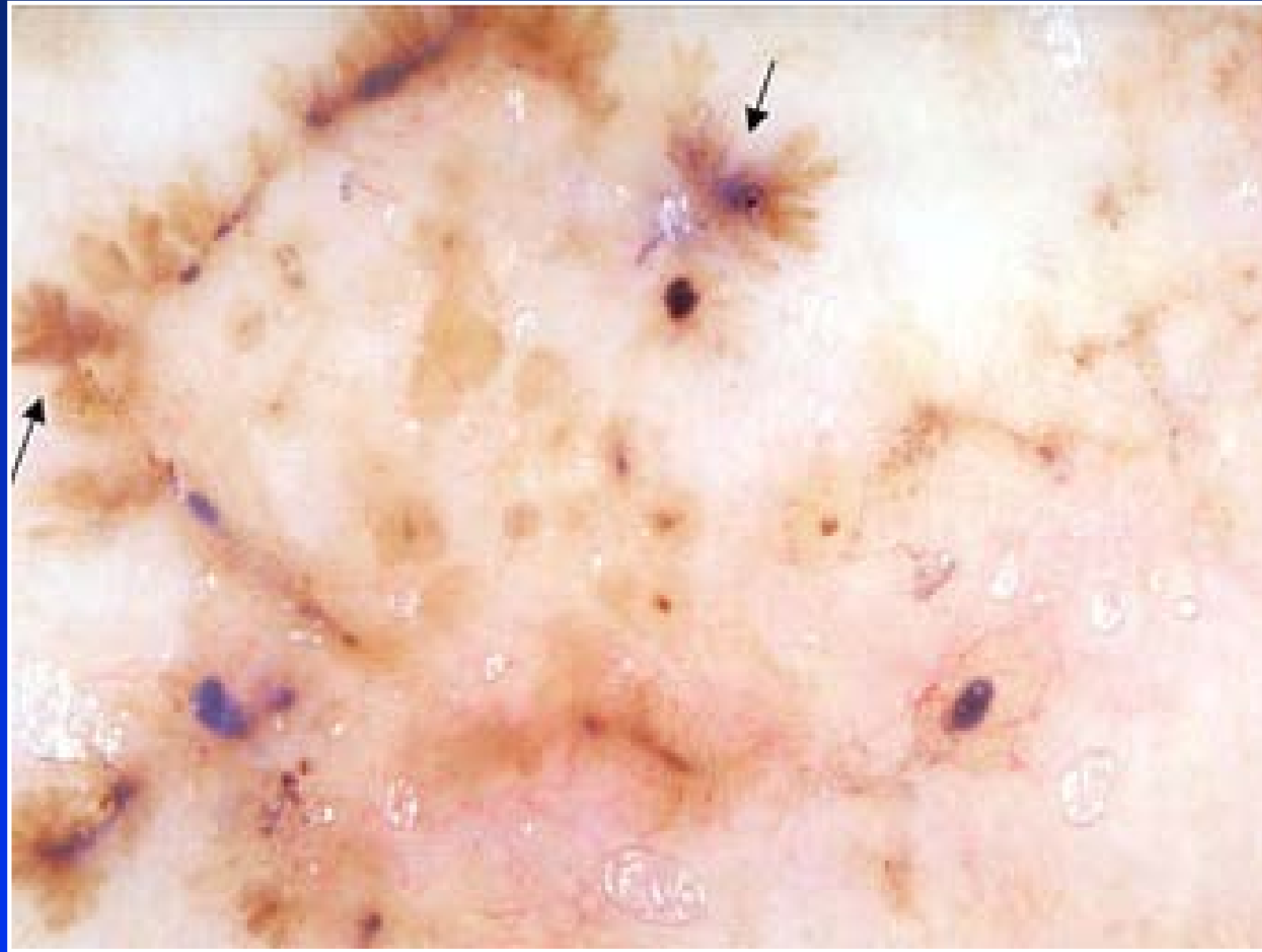


Multiple Blue-grey  
Globules

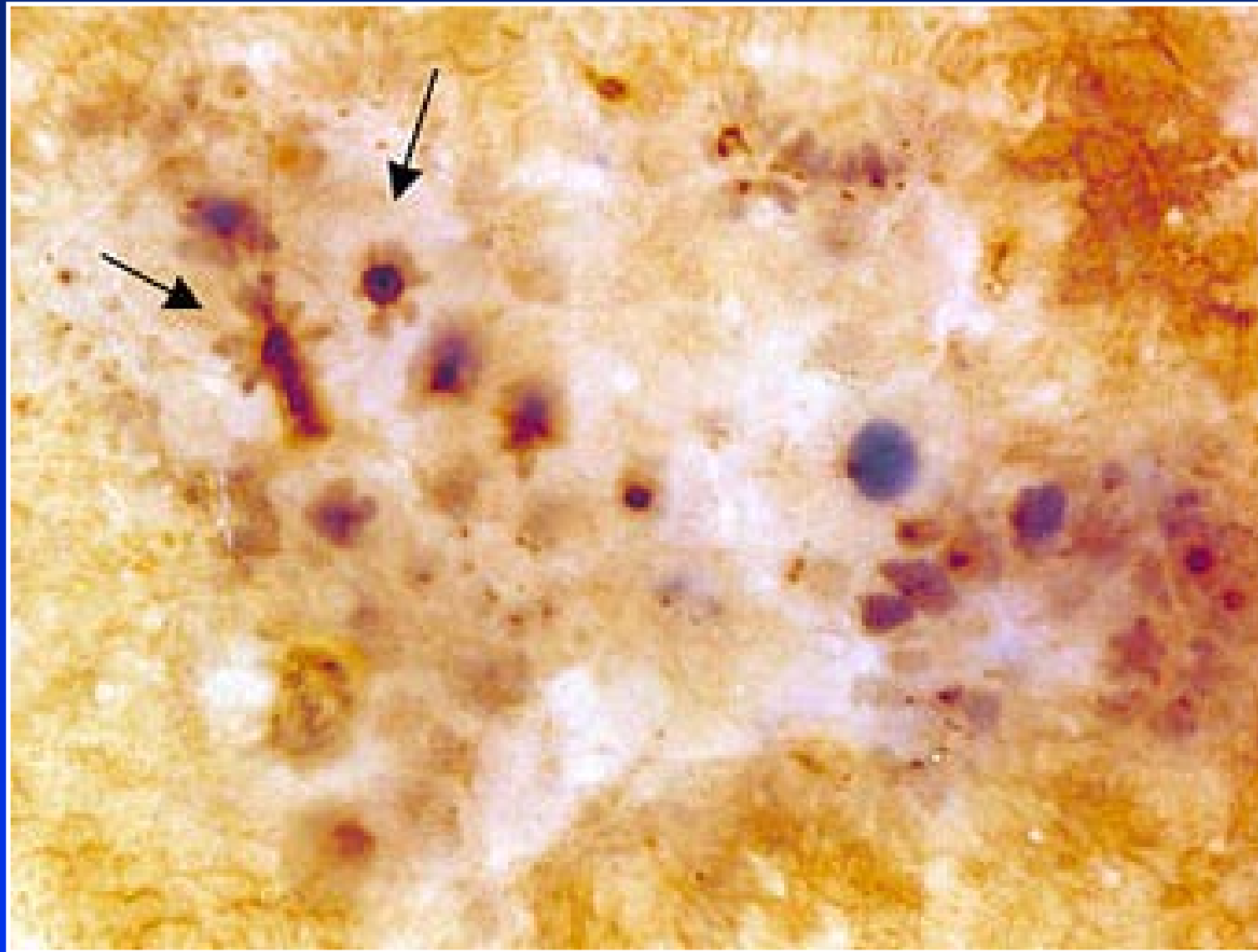


# Step 1: Melanocytic vs. Non-Melanocytic

- Features of Basal Cell Carcinoma?
  - Absent pigment network & one of the following:
    - Arborizing vessels
    - Leaf-like structures
    - Large blue-grey ovoid nests
    - Multiple blue-grey globules
    - Spoke wheel areas



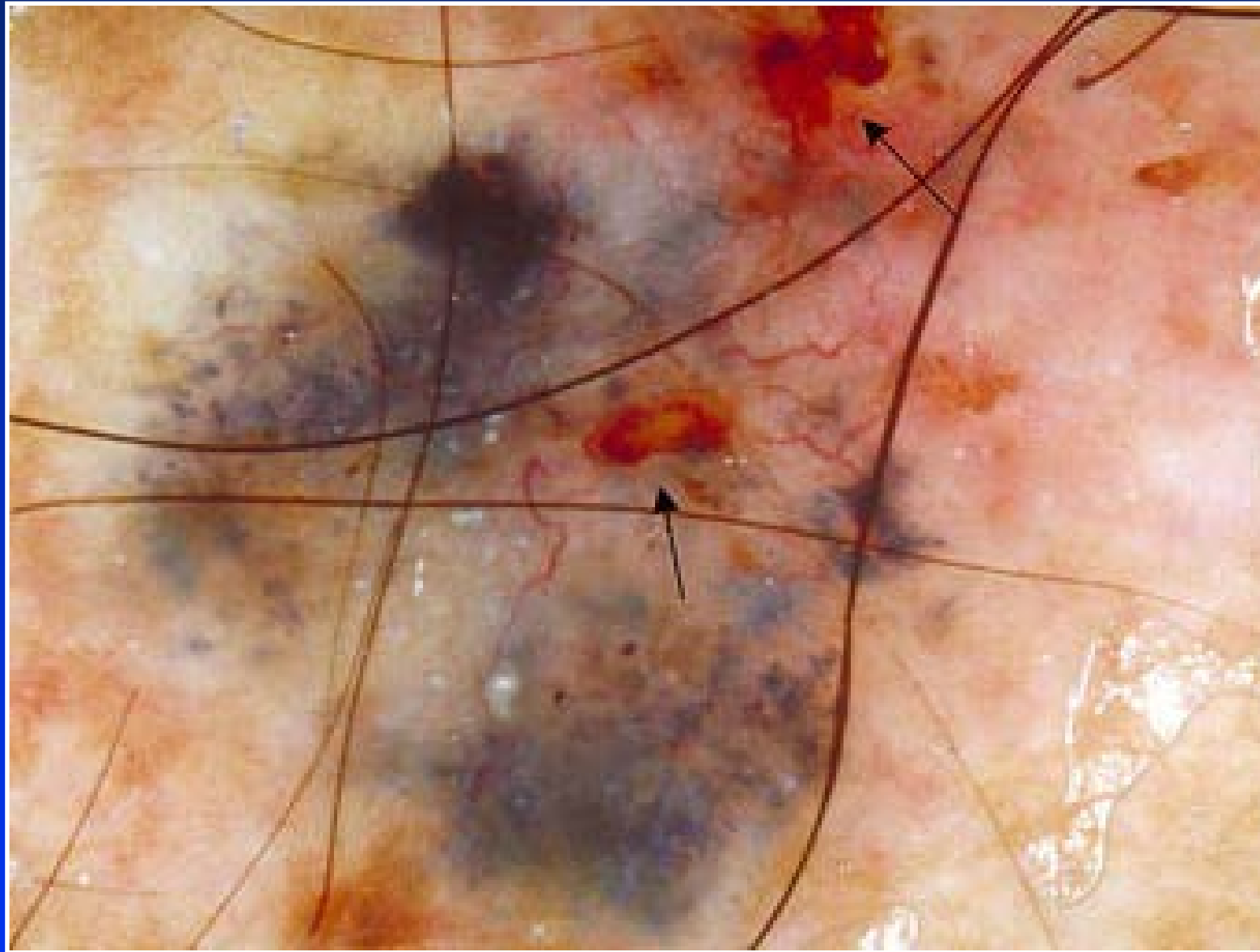
Spoke-wheel Areas



Spoke-wheel Areas

# Step 1: Melanocytic vs. Non-Melanocytic

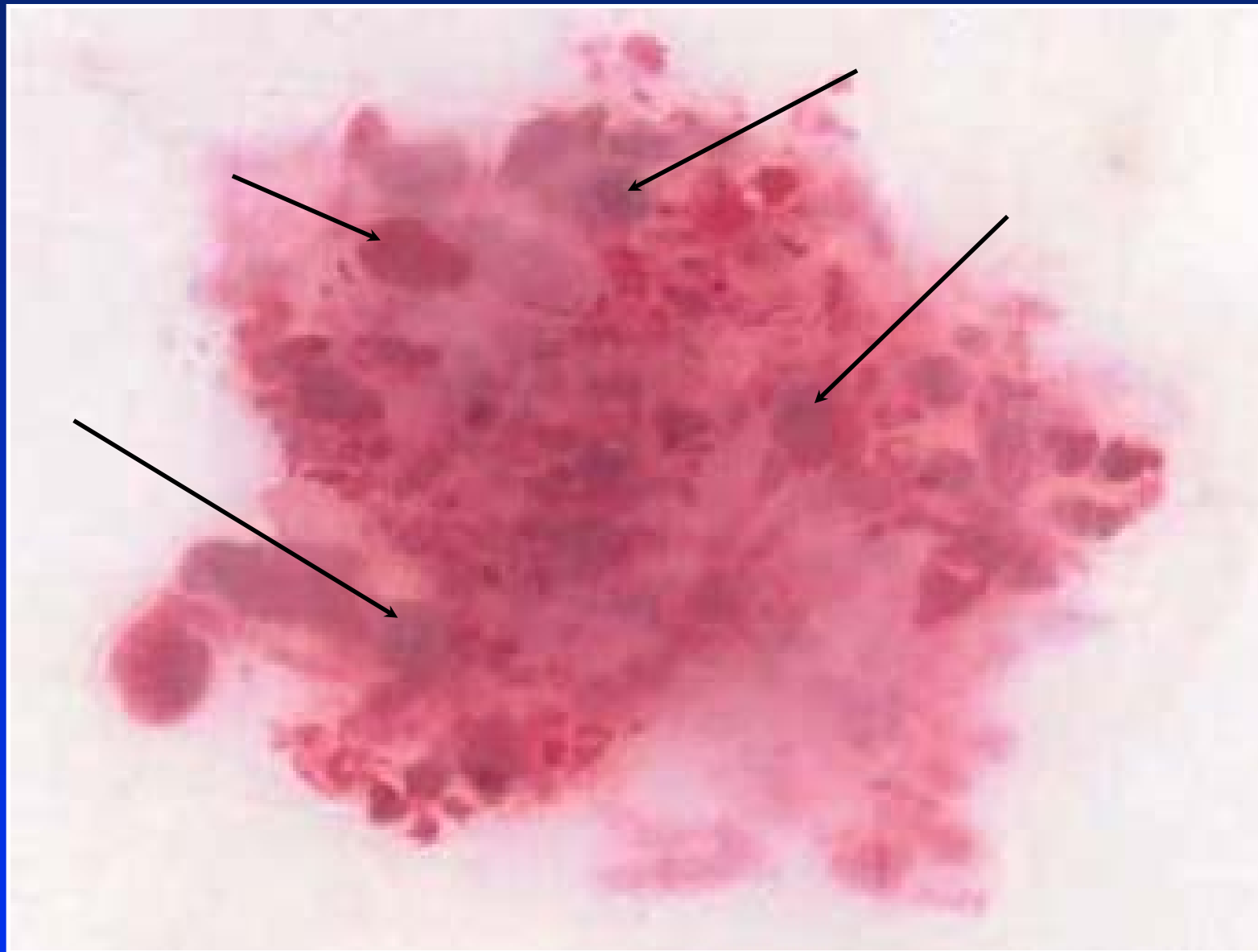
- Features of Basal Cell Carcinoma?
  - Absent pigment network & one of the following:
    - Arborizing vessels
    - Leaf-like structures
    - Large blue-grey ovoid nests
    - Multiple blue-grey globules
    - Spoke wheel areas
    - Ulceration (exception: can be seen in melanoma)



Ulceration

# Step 1: Melanocytic vs. Non-Melanocytic

- Features of vascular lesion?
  - Red-blue lacunae



Red-Blue Lacunae

# Step 1: Melanocytic vs. Non-Melanocytic

- Features of vascular lesion?
  - Red-blue lacunae
  - Red-blue to blue-black homogenous areas





Red-black Homogenous  
Areas

# Step 1: Melanocytic vs. Non-Melanocytic

- None of the aforementioned criteria? = Melanocytic

# Step 2: Benign vs. Malignant Melanocytic Lesion?

- Several algorithms
  - 3-point checklist\*
  - Pattern Analysis
  - Menzies
  - ABCD
  - 7-point checklist

# 3-point Checklist

- Distinguish malignant from benign
- Screening tool
- Novice dermoscopists

# 3-point Checklist

- Asymmetry
  - Color & Structure
- Atypical network
- Blue-white structures

# Pattern Analysis

- Complex
- Requires practice
- More advanced

# Pattern Analysis

- 5 Global Patterns for melanocytic nevi
- 5 Patterns for Acral melanocytic nevi
- 5 Melanoma-specific local criteria
- 5 Site-specific melanoma-specific criteria
- 6 Criteria for non-melanocytic lesions

# 5 Patterns of Acral Melanocytic Nevi

- Parallel Furrow





Parallel Furrow

# 5 Patterns of Acral Melanocytic Nevi

- Parallel Furrow
- Lattice-like



Lattice-like

# 5 Patterns of Acral Melanocytic Nevi

- Parallel Furrow
- Lattice-like
- Fibrillar



**Fibrillar**

# 5 Patterns of Acral Melanocytic Nevi

- Parallel Furrow
- Lattice-like
- Fibrillar
- Parallel Ridge



Parallel Ridge

# 5 Patterns of Acral Melanocytic Nevi

- Parallel Furrow
- Lattice-like
- Fibrillar
- Parallel Ridge
- Non-specific



Practice!

# Conclusions

- Dermoscopy is well entrenched
- Practice is required to improve
- 3-point checklist is easy to implement

# Resources

- [www.dermoscopy.org](http://www.dermoscopy.org)
- Color Atlas of Dermatoscopy, 2nd edition. Stoltz, et al. Blackwell Publishing, 2002.
- Dermoscopy: The Essentials. Johr, et al. Elsevier Limited, 2004.
- Advanced Course Next Year?